CLERK'S COPY

Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1930

No. 90

FRANK L. SMITH, CICERO J. LINDLY, HAL W. TROVILLION, ET AL., ETC., ET AL., APPELLANTS,

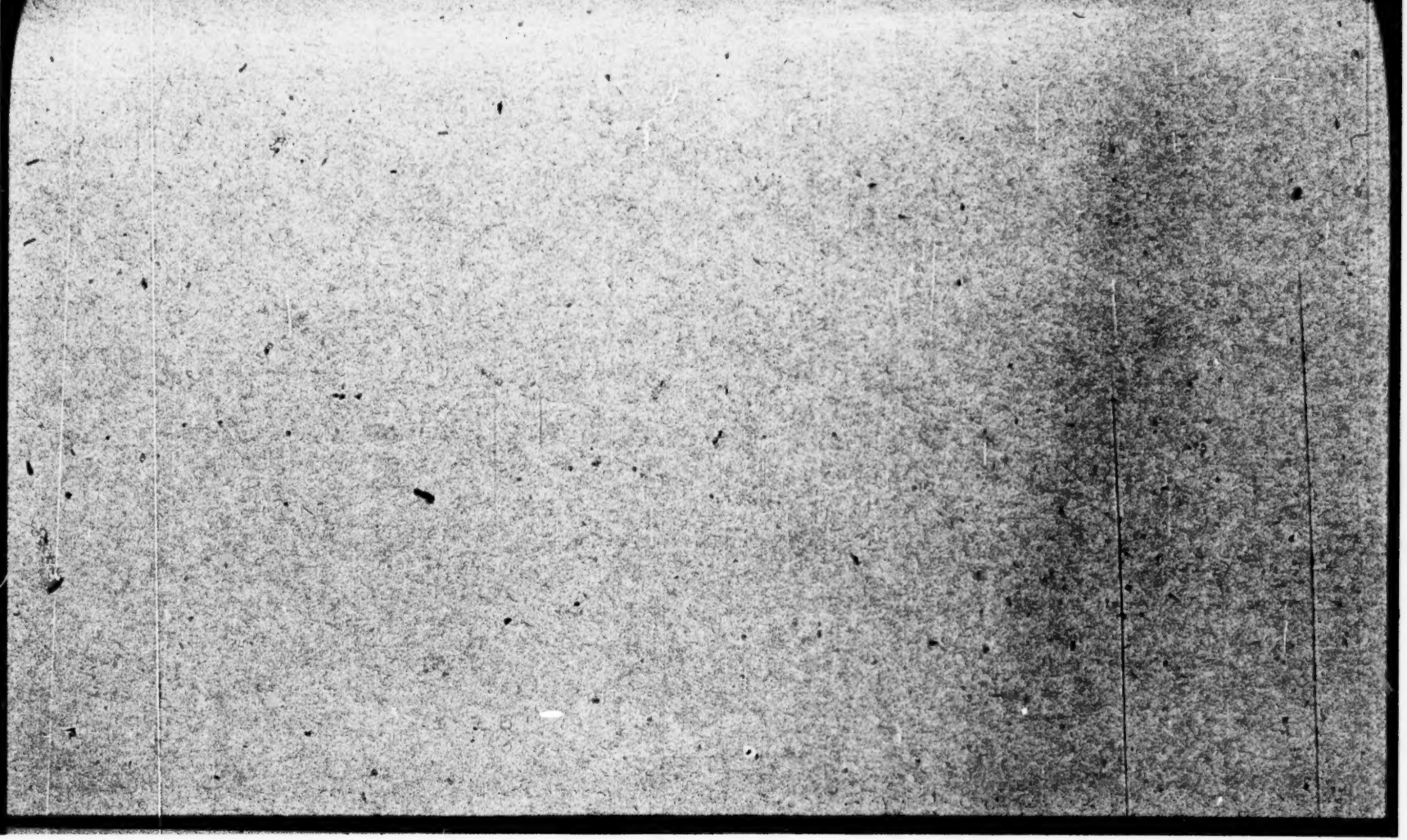
vs.

ILLINOIS BELL TELEPHONE COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS

FILED APRIL 25, 1930

(34,976)



(34,976)

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1930

No. 90

FRANK L. SMITH, CICERO J. LINDLY, HAL W. TROVILLION, ET AL., ETC., ET AL., APPELLANTS,

vs.

ILLINOIS BELL TELEPHONE COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS

VOL. II

INDEX

	Page
Opening statement, Mr. Bangs	597
Opening statement, Mr. Haight	603
Stipulation re certain facts	620
Exhibit "A"—Inspection and valuation of Chicago buildings	621
Exhibit "B"—Affidavit of Edward A. Renwick	635
Testimony of William F. Sloan	637
John R. Turner	680
S. A. Rhodes	699
William F. Sloan (recalled)	709
U. F. Cleveland	748
William F. Sloan (recalled)	757
U. F. Cleveland (recalled)	761
Statement of Mr. Bangs on interstate separation	815
Statement of Mr. Goldstein on interstate separation	820

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., JUNE 6, 1930

	Page
Testimony of Andrew Sangster	823
H. A. Harris	828
U. F. Cleveland (recalled)	832
Andrew Sangster (recalled)	846
U. F. Cleveland (recalled)	848
H. A. Harris (recalled)	850
U. F. Cleveland (recalled)	853
Allan B. Crunden	869
Statement of Mr. Bangs on expense depreciation	880
Testimony of F. O. Hale	884

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS,

EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY,
Plaintiff,

vs.

P. H. MOYNIHAN, HAL W. TROVILLION, WILLIAM J. SMITH, ALEX J. JOHNSON J. PAUL KUHN, JAMES R. CLARK and DAN JACKSON, the Persons Constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney-General of the State of Illinois,
Defendants,

and CITY OF CHICAGO, a Municipal Corporation,
Intervenor.

In Equity
No. 3746

ABSTRACT OF RECORD

Volume I

Plaintiff's Direct Testimony

Page of Record

OPENING STATEMENT BY MR. BANGS

On Behalf of Plaintiff.

2A Mr. Bangs: If the court please, I would like to make a short opening statement on the nature of the testimony that will be tendered by the plaintiff and also discuss briefly the history of the proceedings.

The Court will recall the issuance of the restraining order and the temporary injunction, the appeal to the Supreme Court and the affirmance by that Court of the temporary injunction.

The Court will also recall the motion by the plaintiff for a judgment on the pleadings, argument on that motion and the disposition thereof by the statutory Court.

The Court will also recall that the plaintiff and the defendants were called before the statutory court in October of last year and requested to make arrangements for the disposition of the case.

We first appeared October 22d, and again on October 26th, at which time the intervening defendant, the City of Chicago, requested a continuance to November 26th. We again appeared on November 26th and the case was set for disposition early in February.

We appeared again in February and were requested by
3A the Court to file a statement of the evidence which both parties intended to introduce.

Those statements were filed February 15th and the case was then set for trial on the 15th of April. The plaintiff will confine its evidence very closely to the statement of evidence which was filed with the Court.

Now, I will take the proposed evidence up in that order:

We will first show the value of the property of the plaintiff used and useful in the City of Chicago, on June 30, 1923, to cover the allegations of the bill of complaint.

We will show the cost of the property as shown by our books and the correction of that cost to show the omitted overheads, and in that respect we will not attempt to claim more than the amount of omitted overheads allowed by the Commission, so as to avoid what appears to us to be an unnecessary dispute on that item.

We will show the reproduction cost new of the property on that date, the amount of working capital, including materials

and supplies, construction work in progress, and the going value of the property.

We will show the present condition of the property as of that date,—that will be in accordance with the finding of the Commission as to the condition of the property.

4A We will also introduce testimony as to the trend of prices after June 30, 1923, for a period of approximately two years, in order to show that the price level as of the date of valuation remained constant during that period.

We will next introduce testimony as to the company's revenues and expenses during the year 1923 and also for the period from 1923 to 1928.

The City of Chicago, as we understand it, disputes the materiality of testimony as to the revenue and expenses after, say, 1925, believing that is a long enough period for the Court to have before it to determine the issues in this case. We will tender the evidence for the entire period. The Court can dispose of it as it deems advisable.

We will offer in evidence the uniform system of accounts under which our books are kept, being those promulgated by the Interstate Commerce Commission, and also the uniform system of accounts of the Illinois Commerce Commission, which are required by statute to be not inconsistent with those of the Interstate Commerce Commission.

We will introduce evidence as to the effect of the Commission's order, that is, what the resulting decrease in our revenue would have been, had the Commission's order gone

5A into effect; and also the amounts that we have reserved for refund in accordance with the order of the Court in the temporary injunction.

We will also offer the testimony of the Operating Vice President of the Company to the effect that the property is being economically operated, as to its condition, character of its service and its operating expenses.

We also have before us necessarily in this case, unless it can

be covered by agreement, which apparently it cannot be, the separation of the interstate property.

In trying cases of this character before the Commission it has not been customary to make any separation of the property devoted to interstate purposes, but because of the doctrine promulgated by the Supreme Court in the first Minnesota rate case, involving railroads, it has been deemed necessary, in practically all of these cases, with some exceptions, to make a separation of the interstate property, the interstate revenue and interstate expenses, the theory being that in a confiscation case, the issue is the confiscation of the plaintiff's intra-state property by order of the State Commission.

We had hoped to be able to secure a stipulation as to this item, but that is apparently impossible and that will require a very considerable amount of time to prove. The sepa-
6A ration is necessarily quite complicated.

There are two items of expense, and I believe only two, that are here disputed by the defendants. One is the expense of depreciation, and the other is the payment to the American Company under the license contract.

This license contract with the American Company was gone into thoroughly before both Commissions that have considered the Chicago rates of the Illinois Bell Company and because of the nature of the defense which the intervening defendant proposes to make as to this item; or to put it in another way, the attack on this item of expense, I would like to state to the Court the situation of the record in that regard, briefly.

In the order of the State of Illinois Public Utilities Commission of December, 1920, which is the order fixing the rates under which the company is now operating, the Commission allowed the expenses limited to a certain amount per station, $2.10 per station per annum for the City of Chicago, that being the amount that the Company was paying under its then rate or then revenue.

When the rates were increased, since the payment is based on revenue, that amount increased to some $2.36 per station.

When the Illinois Commerce Commission issued its or-
7A der which is here enjoined, it stated that the present record does not contain sufficient information to warrant the Commission in departing from the findings of the previous Commission in respect to the payments which should be made to the American Company, so that the Illinois Commerce Commission allowed the same payment in the same amount as the former Commission.

We shall, therefore, introduce evidence to show the difference between the amount allowed by the two former Commissions and the total amount paid, the difference being the sum of $336,000 for the year 1923, increasing to 1925 and then decreasing thereafter because of a change made in the license contract, the payments having been reduced to 4 per cent in 1926 and '27. In 1928 the Illinois Bell Company purchased from the American Company, all receivers, transmitters and induction coils which formerly had been leased under this license contract, and the amount of the payment was then reduced to 2 per cent.

The City of Chicago, the intervenor, as I understand it, proposes to attempt to impeach or attack the order of the Commission on this item and to go extensively into the relations between the American Company and the Illinois Bell
8A Company, both as to the license contract and as to its other operating agreements, and served notice yesterday of its intention to attempt to take depositions in the City of New York covering this item; which, I assume will come up before your Honor, or before the Court for disposition at some time before the City is prepared to introduce its testimony.

For that reason I have explained the situation briefly as to that payment. We have been unable to stipulate anything other than the value of the lands and the value of the buildings.

There are some items that the City of Chicago would be willing to stipulate, as I understand it, which the Commission is not willing to stipulate.

We were requested some time ago to furnish certain testimony which will come from our books, and from other sources, that the intervenor desired to use.

That request was made April 9th. We made reply to it April 12th,—in part, April 9th and in part April 12th, and further, since then we have conferred with the representatives of the City of Chicago as to this testimony.

The items requested are very voluminous, the first letter covering some seventy items, and the second letter covering seventeen items.

9A I want to state here that we are using our very best efforts to get this material ready, but some of it may not be available, some cannot be procured. As to the contracts or other form of documents or correspondence—we will in all cases where the witnesses are alive, and subject to certain restrictions, waive technical objections in order to accelerate the trial. For example, the City desires the reports of the American Telephone and Telegraph Company from 1882 to date. We will not require them to prove that those are the official reports of the American Telephone and Telegraph Company.

The City has also requested a mass of material, which, frankly, I do not see how it bears on the issues, but in each instance where a contract is involved, such as the contracts of 1879 with the Western Union Telegraph Company, and various other antiquities, we will waive technical objection.

In other words, we will admit that that is the contract, but we, of course, reserve all other objections.

10A OPENING STATEMENT OF MR. HAIGHT

On behalf of Intervenor:

As counsel for the Telephone Company has stated, we have noticed them with respect to securing an order to take depositions of certain witnesses now with the American Telephone and Telegraph Company, to secure certain documents.

In connection with the presentation of that petition it would be well at the same time for the City to make its opening statement, and I have prepared so to do.

The accomplishment of the preliminary injunction in this case in view of the requirement that the funds collected in excess of the Commission's rate be held for the further disposition of the Court, was to hold to *status quo* of the parties.

Now the cause is on for final hearing and the rights of the parties are to be determined not upon the consideration of probabilities or possibilities but upon the consideration of facts.

We start on this hearing with the legal presumption that the rates established by the Illinois Commerce Commission in question are reasonable and not confiscatory.

Louisiana R. Commission v. *Cumberland Telephone, Etc., Co.*, (La. 1909), 212 N. S. 414.

The burden is upon the plaintiff to show that its property will be confiscated by the questioned rates. This burden must be met by clear proof.

Louisville v. *Cumberland Tel., Etc., Co.*, (Ky. 1912), 225 U. S. 430.

11A Indeed such proof must not only be clear, it must be clear and convincing.

United Fuel Gas v. *R. R. Commission*, U. S. Sup. Ct. Advance Sheets Jan. 15, 1929 (73 L. Ed.).

The theory under which the plaintiff has presented its case before this Court, on the motion for preliminary injunction,

and the theory which its affidavits indicate it holds to now, is that the Illinois Bell Telephone Company is in law and in fact a separate corporate entity operating its plant, property and franchise in Chicago as an independent going business; that the stock ownership of the American Telephone and Telegraph Company has been used by the latter company only for the purpose of investment to receive dividends therefrom, and that such ownership has been used only to participate in the affairs of the subsidiary company in the normal and usual manner.

Upon this theory the plaintiff insists that the fact of ownership alone of the capital stock by the holding company does not create an identity of corporate interest between the two companies or render the holding company the owner of the property of the subsidiary company or create the relation of principal or agent or representative between the two; that the fact of stock ownership merely leads to close scrutiny; that if such close scrutiny leads back to the fact of stock ownership, such stock ownership is immaterial; that fraud or
12A unfairness must be shown in dealings between the two companies to disturb the various contracts and payments made by the subsidiary company to the holding company, and that in determining the proper rate of return which should be allowed on the property of the local company, the revenues received by the holding company and the benefits received by it through its relationship with the subsidiary company are to be disregarded.

The City, however, is of the opinion that the facts, when adduced on this hearing, will show that the stock ownership of the American Telephone and Telegraph Company in the local company has been resorted to by the holding company, not for the purpose of participating in the affairs of the local company in the normal and usual manner, but for the purpose of controlling this subsidiary so that it may be used, and has in fact been used, as an agency or instrumentality of the American Telephone and Telegraph Company. When this ultimate

fact appears upon this record, the City will insist that the law is clear that the court will not permit itself to be blinded or deceived by mere forms of law, but regardless of fiction will deal with the substance of the transaction involved as
13A if the corporate agency did not exist and as the justice of the case may require.

The position of the City is well fortified by abundant pronouncements made by both Federal and State tribunals in cases involving intercorporate relationships.

Broadly, these are:

First. Rate cases where commissions and courts have, on the facts, regarded the subsidiary and parent company as a unit.

In re Ft. Worth Gas Co., P. U. R.1929 A, at 1377.

Ohio Mining Co. v. *Public Utilities Commission*, 106 Ohio State 138; 140 N. E. 143.

United Fuel & Gas Co. v. *R. R. Commission of Ky.*, 49 U. S. Sup. Ct. Rep. 150, 1929.

Second. Cases arising under the Revenue Act.

Great Lakes v. *Commissioner of Internal Revenue*, No. 4041, Circuit Court of Appeals for the Seventh Circuit, 30 Fed. (2d) 1 (Advance Sheets of March 7, 1929).

Third. Cases in which a holding company in active control of a public utility has been held liable for torts committed by the employees of the subsidiary company.

Coston v. *Manila Electric Co.*, 24 Fed. (2d) 383.

Davis v. *Alexander*, 269 U. S. 114.

Fourth. Cases arising under the Commodities Clause of the Interstate Commerce Act, where the corporate entity has been disregarded.

U. S. v. *Del. L. & W. R. R. Co.*, 238 U. S. 516.

U. S. v. *Lehigh Valley Ry. Co.*, 220 U. S. 257.

Fifth Cases where the holding company is held to be doing business in a State without qualifying as a foreign corporation.

Central Life Securities Co. v. *Smith*, 236 Fed. 170.

Sixth. Cases where a rate is legal if the subsidiary company were truly independent, but illegal if made by the holding company.

14A *Minneapolis, St. Paul & S. S. Ry. Co.* v. *Minneapolis Civic & Commerce Assn.*, 247 U. S. 490.

This case is a leading authority on the subject and in this case the two theories expounded herein are discussed in detail and many authorities cited for the distinction in the legal consequences arising therefrom.

Upon the facts in the case at bar, as we believe they will appear, the real party plaintiff in this case—that is, the real operator of the property of the Chicago Telephone Company is the American Telephone and Telegraph Company and the inquiry before this Court as to the confiscation of property and the proper rate of return upon such property involves the question of confiscation of the property of the American Telephone and Telegraph Company and the rate of return to the investors of the American Telephone and Telegraph Company, disregarding in such inquiry the technical corporate identity of the subsidiary company.

In support of its position, the City expects to show the domination and control over the property and management of the local company by the American Telephone and Telegraph Company so as to reduce the former to a mere agency or instrumentality of the latter in the following manner: By—

15A 1. The American Telephone and Telegraph Company's declarations of purpose of acquiring the stock interest in the local company from the time of its acquisition at the date of incorporation of the Chicago company, in 1881, to the present time, as made by the president and responsible officials of the parent company from time to time in the official annual reports to stockholders, in their advertisements to the public, in their speeches and other declarations of policy which have found expression in the slogan by the parent com-

pany—"One policy—One system—Universal Service"—and as the parent company has said:

> "The American Telephone and Telegraph Company, controlling the entire system, will as it has in the past, exercise the functions of a centralized administration. All questions of policy, common to all, all common matters which may have an effect upon the system as a whole, will be settled by the Central Administration. As one administration will do for all what each would have to do for itself, it has the advantage of economy and will maintain uniformity."

2. By specific steps taken by the parent company to transfer allegiance of the management and control of the local
16A company to the parent company by means of—

(a) Maintaining on the payroll of the American Telephone and Telegraph Company officers of the local company;

(b) Electing practically the entire board of directors from men who have no personal financial interest in the company but who hold stock belonging to the parent company.

(c) Substituting for the Employees' Benefit Plan of the local company a Bell System Benefit Plan based upon service in the Bell System rather than in the local company.

(d) Creating a stock ownership plan for employees in which the local company acts as agent for the parent company to enable employes of the local company to become stockholders of the parent company.

(e) Giving directions and training to the employes of the local company as to the minutest details of operation and management along the lines desired by the parent system;

(f) Causing the construction of the equipment of the local company along lines which place its replacement or ex-
17A tensions within the sole and complete control of the parent company;

(g) Reducing the functions of the local company to mere routine following of instructions in the operation of the telephone business and destroying or greatly circumscribing the

executive, purchasing, engineering, operating and financing functions of the business of the local company and concentrating the same in the control of the parent company;

(h) Controlling the operations of the local company in the minutest detail through perpetual contracts which vest control in the parent company.

Having shown the control and domination over the property and management of the local company by the parent system, we next will consider the question whether such domination and control have been used by the parent company so as to create for it special benefits apart from, and in addition to, its reception of dividends on its cash investment, not arising from usual and customary operations of the business of the local company.

We expect to show the special benefits to the parent company in the following:

(a) The Chicago Telephone Company has been used to benefit the balance of the system by loans made from
18A time to time beginning with 1894 from the Chicago Company to the System;

(b) By the credit and the property of the Chicago Company being mortgaged to procure funds which were used to purchase from the parent company in excess of $10,000,000 of past-due obligations held by the parent company for advances made theretofore by it to other parts of the Bell System, and which past-due obligations were then held by the Chicago Company in whole or in part for at least six years before the said sums were repaid;

(c) By direct loans and advances made by the local company to the parent company without compensation from 1917 to and including 1925;

(d) By the credit and property of the Chicago Company being mortgaged to acquire assets in the Bell System at arbitrary valuations placed upon the property by officials of the local company and those of the System, while they were under

the control of the parent company, and which purchases enabled the parent company to liquidate investments which it had had which were unprofitable and which were under legal attack, and which investments aggregate in excess of $15,000,000.

19A We also will show that there has been discrimination practiced against the Chicago Company and its business in favor of the balance of the Bell System. This discrimination we expect to show in the following manner:

(a) By making charges to the Chicago Company by the parent company for financing services which did not exist in fact, and which were not necessary in fact, but which financial services so charged for in the case of the local company did in the case of the other parts of the Bell System in fact represent a cost to the parent company of from 30 to 60 per cent of the entire license revenue received by the parent company from such other parts of the Bell System.

(b) By destroying the individual identity of the operations of the Chicago company and by intermingling and grouping such operations with that of other parts of the Bell System with a conglomerate control, all under the domination of the parent company.

(c) By interference by the parent company in the management of the local company and its refusal to permit the local company to do business with opposition companies to the Bell System, but companies which were friendly to the Chicago Company.

20A In addition to the special benefits derived from the Chicago Company in favor of the Bell System, and in addition to the discrimination against the Chicago company in favor of the balance of the System—we will show also—

(d) That special revenues were derived from services rendered to the Chicago company by the plaintiff company by virtue of its control and domination of its operations not in the usual and customary manner—such special revenues being

1. A charge of 4½ per cent of the gross revenues of the Chicago company for the rental of certain physical properties together with services alleged to have been rendered and to be rendered by the plaintiff company to the local company, which charge as rental for the property itself is admittedly excessive, and which charge for services is, at least in the case of the Chicago company, based upon a lack of substantial service rendered and for which charge therefor there is a substantial, if not a complete, failure of consideration.

In this connection we shall show that the fifty odd cases before courts and commissioners in which the local company insists the 4½ per cent charge has been sustained by the Court (including the U. S. Supreme Court) are distinguishable from the case at bar—that such decisions can be and should be
21A distinguished from this case at bar, among other respects, in the following:

(a) Many of these cases upon their record show special financial service rendered by the parent company to the local company, which was in financial difficulty or had financial weakness—benefits, the charge for which exceed the total amount of revenues received by the parent company from all sources as to such particular utility. Such financial service was not rendered in the case at bar.

(b) Many of the cases do not disclose on their record any investigation or any finding of fact of control or domination of the physical property and management of the local company for the benefit of the parent company other than the receipt of dividends from the investment in the local company. As to these cases scrutiny has only led to stock ownership and no facts of unfairness or discrimination have been disclosed such as are disclosed in the case at bar.

(c) A third class of cases not only does not disclose any facts of discrimination or unfairness, but has no discussion at all of the principle involved, but decided upon the doctrine of *stare decisis* and authority of the two cases in the United

States Supreme Court (Houston and Southwestern Bell
22A case) in neither of which cases did the record disclose any facts of relationship, and in one of which cases the Court has expressly stated that it will not take judicial notice of any facts of domination or control, and in both of which cases had the record been complete upon the admissions of the parent company, each of the companies received financial benefits, the cost of which to such local companies would have represented more than half of the total amount of revenues received by the parent company from each of said companies, but which services were not, in fact, rendered in the case at bar.

We also will show that in those cases in which an examination was made into the facts of relationship between the parent company and the local company, as well as the relationship of a particular local company as part of and as a unit in the Bell System, that in each case the judicial conclusion has been a finding that the identity of the local company has been destroyed and that the legal function of its corporation distinctiveness has been retained as a matter of convenience rather than as a sign of independent existence, and that in each case the Court has held that the real owner of the property and the real operator of the property of the local unit has been the parent company.

23A We will point out particular adjudications of this—one being the recent decision by the Michigan Court—one made within the last few weeks, a case where the record reveals the same important new facts in the Bell System's interstate relationship including the very relationships with the parent company and the Chicago Company—we refer to the case of *People of the State of Michigan* v. *Michigan Bell Telephone Company*, in which the Court has said, after an examination of facts which were not as strong or as comprehensive as the facts which we intend to show exist in the instant case as follows:

"The Michigan Company is no more engaged in conducting and carrying on a telephone business than is the

ordinary station agent engaged in conducting and carrying on the railroad business of the employer. The agent must be reasonable and intelligent and use a certain discretion, but it would be remarkable were his lines as closely defined as those of the Michigan Company."

In the case of the Chicago Company we expect to show that this destruction of initiative in the operation of the business has been even more complete—by the parent company.

24A From what we have already said, sufficient proof of unfairness and discrimination, and of control of the Illinois Company as an instrumentality and division of the American Telephone and Telegraph Company, will be disclosed in the case at bar to not only plainly distinguish the cases decided by the Supreme Court of the United States, but in conformity with the intent of those decisions, and squarely within the principles announced in such cases as *Minneapolis, Etc., Ry.* v. *Minneapolis Civic & Commerce Assn.*, 247 U. S. 490, and *U. S.* v. *Lehigh Valley R. R.*, 220 U. S. 257, to lead to a different conclusion in the case at bar than in the fifty odd cases just referred to.

2. The toll revenues are derived by the parent company from the use of the Chicago property in connection with Chicago business in relation to the balance of the parent system, by virtue of the strategic position of the Chicago property in the system, and upon the sole investments of the Chicago Company without payment by the parent company for such special considerations and such investment—therefore, not only should that part of the toll revenues heretofore allowed to the local company to be taken into account, but that part of the toll revenues allocated to the parent company earned by and attributable to the Chicago property should be added.

25A 3. The manufacturing profit received by the parent company through the manufacturing division—namely, the Western Electric Co., on equipment installed in and used by the Chicago company under conditions which preclude any disinterested and independent judgment on behalf of the local

company, either as to the utility of or necessity for such equipment in the current operations of its business, is proof of further unfairness.

The proof of the facts necessary for the proper adjudication of the rights of the parties with reference to the above matters will involve a consideration of, and we expect to go into, the corporate and financial history of the Chicago company from its incorporation in 1881 to date, including an examination of its corporate records, which we have already made, and an examination of its financial policies and the various actions of its board of directors and responsible officials both in the company itself and in their relation to the operations of the Bell System as a whole.

Also, we must go into the history of the parent company and of the American Telephone and Telegraph Company as the parent of the Bell System and its predecessor companies from the time of the granting of the original Bell patents in
26A 1876 to date, disclosing the purposes of the policies and the operations of the system with reference to the parts thereof.

Also an examination of the various cases heretofore adjudicated before the administrative as well as judicial tribunals of the United States to disclose the existence, or non-existence, of distinctive features therein as compared to those of the case at bar, in a proper determination of the correct principles of the law applicable hereto.

In preparation of the proof of relationship, we have already, in order to expedite the trial of this case, made a demand on the General Counsel for the local company, to provide us with all contracts between the local company and the various constituent parts of the Bell System, which he has agreed to do.

We have also asked him to furnish us data within the control of the local company as bearing upon the practices had in connection with this relationship, some of which he has agreed to furnish us and some of which he has refused so to do.

We have also asked him to furnish us with certain data in the possession of the American Telephone & Telegraph Company and the Western Electric Company upon the same relationship and we are advised that this information will not be furnished us. We have, accordingly, prepared a petition covering such subject matter.

27A We have likewise requested that we be permitted to introduce in this hearing those exhibits and that part of the record heretofore had in the hearings before the Illinois Commerce Commission in which the counsel for the local company made no objection to the introduction of certain exhibits which we believe are pertinent in connection with the issue of relationship. Counsel has not notified us as yet whether he will admit all such proofs. Should he refuse so to do, it will be necessary for us to make strict proof of these documents and we will be required to subpoena certain records.

In this connection, however, we desire to place ourselves on record with reference to the attitude taken by the local company and believe that a recognition of this position by the local company will greatly facilitate the trial of the case.

The local company, in defense of its position, is expending money which comes from the telephone users, inasmuch as the expenses of litigation are charged as operating expense. The local company has taken the position that it is being treated fairly in its relationship with the American Telephone and Telegraph Company and because of this position has, at the expense of the public, called witnesses and prepared exhibits to prove the fairness of parts of the 4½ per cent contract

28A and the relationship.

It would seem that this position of showing the fairness of the relationship should go to the extent of the local company presenting, willingly and anxiously, all the evidence bearing upon all other parts of the relationship, especially the charges under the 4½ per cent contract when the public, through its representatives, calls to the attention of the local company the admissions of the parent company that it has dis-

criminated against the local company in favor of the balance of the system.

These admissions, we have pointed out to the counsel for the local company, in connection with the exhibits and contentions made by the American Telephone and Telegraph Company in the New York case—*In re New York Telephone Co.*, P. U. R. 1923 B, at pages 578-9. Inasmuch as this is now a matter of public record, it would seem to be an imposition upon the public, as well as upon this court, for the local company to take the arbitrary stand and for the American Telephone and Telegraph Company to take the arbitrary stand that it will not produce some of this evidence.

The Court will find this stand irreconcilable with the slogan of the American Telephone and Telegraph Company, broadcast by advertisement at the public expense (inasmuch as all
of the expenses of advertising by the company is appar-
29A ently considered as part of the services under the license contracts); and which slogan is

"The American Telephone and Telegraph Company accepts its responsibility for a nationwide telephone service as a public trust."

Having established the legal relationship of the American Telephone and Telegraph Company to the Illinois Bell Company as one of operator and user of the property and not one of investor in the stock of the local company participating in the affairs of the corporation in the normal and usual manner, certain definite legal consequences follow:

(1) The independent corporate entity of the local company having been destroyed in reality, for the purpose of the legal determination of the rights of the parties it will be disregarded by the Court and the Court, in this case, will deal with the rights of property embraced in the Fourteenth Amendment, not by determining the question as to what is a fair return to an ordinary investor in the property of the local company, but what is a fair return to the investors who have

placed their investment in the American Telephone and
30A Telegraph Company, the real operator of the Chicago
property insofar as the local property and the local use is concerned.

It will appear by the statements of the parent company that each part of the Bell System contributes to the treasury of the parent company available for return upon the investment of the public who invest in the parent company revenues which are labeled—either dividends on stock in subsidiary companies, revenues derived from manufacturing profits through the manufacturing department of the system, toll revenues, derived from the use of the local property and distributed to the parent company, and revenues derived through a charge upon a percentage of the business of the local company; also revenues which the parent company derives through its method of financing the local company by making use of certain legal benefits derived from its particular corporate structure under the income tax law and through the difference in the type of security issued by the local company to it in exchange for the moneys advanced and the type of security used by the parent company to procure the same amount of money from the public.

Inasmuch as it will appear that the parent company has attracted capital through advertising these various sources of revenue as the basis for and as an inducement to the public
to invest its money, it will be the City's position that it is
31A inconsistent that the Company now ask this Court to disregard the realities of the situation and to deal with the return upon the basis of only that one of its sources of revenue from the local property which has been labeled dividends upon stock investment:

Under the burden which is upon the owner of property to convincingly show the alleged infringement of rights under the Fourteenth Amendment, unless the real operator of the property makes a showing in this Court that the total reve-

nues received under all of these labeled accounts is so unreasonable as to be confiscatory in law, the bill must be dismissed.

A subsidiary question arising in connection with this conclusion is as to the period of time during which the party alleging confiscation must show or should show that the revenues derived from the particular rates complained of does not yield a reasonable return, which the Courts have said should be allowed.

In our opinion such a period beyond the date of the order should be limited to two years because during the period of two years subsequent to the date of the order under the Public Utility Act of Illinois the company cannot present any new petition to which the rate based upon the new facts applies.

32A After a period of two years the company has had a right to present the facts as they then exist to the Commission, for relief. It should be borne in mind that a decree in a confiscation proceeding decides nothing constructive. It is destructive in that it makes illegal and inoperative an established rate. It does not, in itself, establish a new rate which will continue for the future.

On the contrary, it re-establishes a rate which was established even prior to the rate which is now declared inoperative and because the period of time from the date of the order to the present inquiry has been removed still further, makes such an older rate even more unsatisfactory.

Upon this conclusion that the two year period is the period within which the operation of this rate should be investigated, 1923, 1924 and 1925 are the years that we will investigate. Certain definite conclusions follow from this determination.

In the event that this Court should find that for those three years the rate established has not been confiscatory, then the bill should be dismissed and the entire amount of money held by the company under the preliminary injunction should

be returned and the rate established by the order of the
33A Commission should be in force until such time that the company in the manner prescribed by law files its petition and a finding of fact is made by the Illinois Commerce Commission justifying a change in the rate.

This is true even though the rate might have become confiscatory subsequent to 1925 for the Utility Company had the right, under the law, to show those facts to the Illinois Commerce Commission at any time after 1925 and it having failed to do so cannot use its own failure to avail itself of its rights under the law as a defense to reclaim money otherwise illegally procured by it.

The next question will be,—What is a fair rate of return from all sources relating to this division, the Illinois Bell Telephone Company to the stockholders of the American Telephone and Telegraph Company?

We need not go into a lengthy discussion as to what would be fair, inasmuch as we will show admissions and advertisements by the American Telephone and Telegraph Company itself, in which it has represented to its stockholders that because of these various revenues received by it for these investors over and above the dividends from the subsidiary companies, a return of 5 per cent upon the physical property of constituent parts of the Bell System is sufficient, to-
34A gether with these other revenues, to pay 9 per cent dividends and to induce the investment of capital in the enterprise currently and with valuable rights in addition thereto, and to have beyond this a reasonable surplus to guard against contingencies that may arise and to safeguard a stability of financial investment irrespective of changes in current economic conditions.

With respect to the order in which plaintiff's counsel has stated they will present their proof, we will follow the same order.

34A Mr. Haight, on behalf of the City of Chicago, presents a petition for an order to take depositions in New York City.

The Court states that he inclines to think that the application should be heard by the entire court, consisting of
35A three members; that the matter will be considered as having been presented on this date.

36A Mr. Bangs, on behalf of the plaintiff, states that he resists the motion and says, among other things:

"The question of domination and control was pleaded in the bill of complaint as filed, and most of the testimony which they are attempting to procure was set up in their affidavits filed some five years ago. So we will resist not only on the ground of the time they are attempting to take depositions, but also on materiality of the evidence and as to the suffi-
37A ciency of the affidavit which is filed.

"It resembles, in my judgment, far more a minority stockholders' bill than it does a rate case. Be that as it may, if this Court decides that any testimony is in its judgment material on the issues of this case, it will be produced voluntarily, in testimony in open court, and not by depositions. That is clear unless the witnesses cannot be here."

9 STIPULATION.

It is hereby stipulated by and between the parties to the above entitled cause, by their respective solicitors of record:

First. That the fair or market value on June 30, 1923, of the lands of the Company in the City of Chicago used and useful was on said date $1,781,774.

10 *Second.* That the cost of reproduction new, without depreciation, of the buildings of the Company in the City of Chicago on June 30, 1923, used and useful, amounted to $13,690,978; that the witness who would have testified as to said value is Edward A. Renwick of the firm of Holabird & Root, Architects, of Chicago, Illinois; that the same witness testified before the Illinois Commerce Commission in Case No. 11894 as to the reproduction cost new of said buildings, on December 31, 1921, and the depreciation existing therein on said date, and that he testified in said proceeding in part as follows:

"We found that depreciation as physical depreciation only, and that is what is meant by *depreciation here, is physical* depreciation and is built up of several elements, masonry, the concrete and steel, which has a very long life; the plumbing, steam heating, elevators, electric wiring, lighting fixtures, woodwork, painting, glazing are all shorter life, much shorter life. This depreciation is built up of those various elements as they enter into this building which determines for a fire-proof building approximately four-tenths of one per cent per year. For a common construction building where there are wood joists the life is much shorter owing to the movement of the joists due to expansion and contraction with moisture and dryness and we find in that type of

11 building it runs about eight-tenths of one per cent per year. These valuations of depreciation are based on those two units, four-tenths of one per cent and eight-tenths of one per cent. That is the amount which invested annually

and compounded at four per cent interest would give the amount of depreciation set forth."

That in said proceeding his testimony as to the reproduction cost new of said buildings and the depreciation existing therein is as shown on pages 17 to 29, inclusive, of Company's Exhibit 85, as filed in said proceeding, No. 11894, said Exhibit being filed on May 24, 1922, and a copy of the portion of said exhibit herein referred to being hereto attached as Exhibit "A" and made a part of this stipulation.

Third. That the method of Mr. Renwick's valuation of said buildings is shown in his affidavit dated March 14, 1929, hereto attached as Exhibit "B" and made a part hereof.

EXHIBIT "A" TO STIPULATION.

INSPECTION AND VALUATION OF CITY OF CHICAGO BUILDINGS.

12 #1. Douglas Office, 418 E. 35th St.:

Built in 1903, common construction with cinder concrete above rough floors; pressed brick front with stone base, trimmings and cornice sides, and rear common brick; wood floors and stairs; iron columns and beams, iron balcony in 2nd about 16x16; wood lath and plaster; tar and gravel roof; galvanized skylights; parapet recently repointed. Cubic contents, 237,630 cu. ft.

Reconstruction value as of Dec. 31, 1921, 30 87/100 cents per cu. ft.	$73,356.38
Less 14 8/10% depreciation	10,856.74
Value	$62,499.64

#2. Canal Office, 1454 W. 19th St.:

Built in 1902, two stories and basement, common construction, pressed brick with stone base trimmings and cornice. Cubic contents, 141,750 cu. ft.

Reconstruction value as of Dec. 31, 1921, 30 87/100 cents per cu. ft.	$43,758.23
Less 15 6/10% depreciation	6,826.28
Value	$36,931.95
Addition built 10-1-20 at cost $61,775. Value as of Dec. 31, 1921	55,488.80
Value	$92,420.75

13 #3. Superior Office, 54 W. Chicago Ave. (visited 9-22-19):

Built 1900, two stories and basement, tile and steel construction, fireproof; terra cotta front, pressed brick on two sides; fireproof windows on side and rear; marble treads, on iron stairs 1st to 2nd story, remainder iron stairs, fire escapes; basement, 1st and 2nd plastered; tutti colori tile floors 1st and 2nd, concrete floor in basement; steam heat, one Kewanee fire box boiler; oak finish; electric wired and electric fixtures; attic space, one-half floored with pine floor, balance unfinished. Cubic contents, 233,848 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 55/100 cents per cu. ft.	$108,856.24
Less 8 6/10% depreciation	9,361.64
Value	$ 99,494.60

#4. Lawndale Office, 3606 Ogden Ave.:

Front portion, three stories, rear four stories with basement under entire building, original building 1909; additions 1913 and 1917; steel and tile fireproof construction; terra cotta front; building similar to Superior Office. Cubic contents, 447,200 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$207,053.60
Less 3 7/10% depreciation	7,660.98
Value	$199,392.62

14 #5. West Office, 25 S. Seeley Ave.:

Built in 1900, addition in 1903, steel and tile construction; terra cotta front; similar to Superior. Cubic contents, 171,165 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$79,249.40
Less 8 4/10% depreciation	6,656.95
Value	$72,592.45
Addition built 11-1-20 at cost $135,564. Value as of Dec. 31, 1921	121,756.00
Value	$194,348.45

#6. Yards Office, 4122-26 Union Ave.:

Three story and basement, second story built in 1900, third story built in 1911, steel and tile fireproof construction, pressed brick and stone trimmings on front, and common brick sides and rear; marble treads on stairs; tutti colori floors on first and second, concrete floor on third; oak trim, slate sills; tar and gravel roof; rebuilt parapet in paving brick. Cubic contents, 246,823 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$114,279.05
Less 7 1/10% depreciation	8,113.81
Value	$106,165.24

15 #7. Monroe Office, 28 S. Sangamon St.:

Two stories and basement, built in 1899-1903-1908, steel and tile fireproof construction; pressed brick front with terra cotta trimmings; wood floors, except in locker room where granite is used; iron stairs. Cubic contents 313,500 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$145,150.50
Less 8 4/10% depreciation	12,192.64
Value	$132,957.86

#8. Lake View Office, 3522 Sheffield Ave. (visited 9-22-19):

This building is in three sections.

First section: Built in 1900; addition in 1904, similar to Superior Office in general details and construction; two stories and basement. Cubic contents, 223,500 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30 100 cents per cu. ft.	$103,480.50
Less 8 6 10% depreciation	8,899.32
Value	$ 94,581.18

Second section: Built in 1911 as addition to rear; reinforced concrete; concrete floors; otherwise similar to first section. Cubic contents, 37,440 cu. ft.

Reconstruction value as of Dec. 31, 1921, 51 45 100 cents per cu. ft.	$19,262.88
Less 3 8 10% depreciation	731.99
Value	$18,530.89

16 Third section: Built in 1915, new building on corner;

reinforced concrete; same as second addition, except exterior pressed brick with stone base and terra cotta cornice. Cubic contents, 535,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 51 45 100 cents per cu. ft.	$275,257.50
Less 2 6 10% depreciation	7,156.70
Value	$268,100.80
Switchboard platform, booster pump, etc. Addition	3,352.77
Value	$271,453.57

#9. Wentworth Office, 6308 Stewart Ave.:

Built in three sections in 1900, 1904 and 1907; similar to Lake View Office. Cubic contents, 303,372 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$140,461.24
Less 6 2/10% depreciation	8,708.60
Value	$131,752.64

#10. Edgewater Office, 1470 Carmen Ave.:

Original two stories built 1906, story added 1912; rear addition 1914; two-story original and added story, steel and tile, rear addition steel and tile fireproof construction; stone bases and trimmings, pressed brick front; details similar to Lincoln; electric elevator. Original building, 89,365 cu. ft.

17

Reconstruction value as of Dec. 31, 1921, 46 30/100 cents per cu. ft.	$41,376.00
Less 6 2/10% depreciation	2,565.31
Value	$38,810.69
Addition, 58,400 cu. ft.	
Reconstruction value as of Dec. 31, 1921, 51 45/100 cents per cu. ft.	$30,046.80
Less 3 8/10% depreciation	1,141.78
Value	$28,905.02
Rear Addition, 173,200 cu. ft.	
Reconstruction value as of Dec. 31, 1921, 51 45/100 cents per cu. ft.	$89,111.40
Less 3% depreciation	2,673.34
Value	$86,438.06

#11. Humboldt Office, 1513 N. Western Ave.:

Built in 1906, original; addition 1916; four stories and basement, steel and fireproof construction; similar to Edgewater. Cubic contents, 484,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$239,096.00
Less 5% depreciation	11,954.80
Value	$227,141.20

18 #12. Oakland Office, 815-21 E. 45th St.:

Built in three sections, remodeled flat building, 1895; one section steel and tile, with second story of common construction, 1902; one section steel and tile, 1907; remodeled flat building three stories high, common construction 48x75x45 high. Cubic contents, 156,500 cu. ft.

Reconstruction value as of Dec. 31, 1921, 25¾ cents per cu. ft.	$40,298.75
Less 25½% depreciation	10,276.18
Value	$30,022.57

Two sections steel and tile fireproof, two stories high. Cubic contents, 185,830 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 3/10 cents per cu. ft.	$86,039.29
Less 4 6/10% depreciation	3,957.81
Value	$82,081.48

#13. Kedzie Office, 17-19 Homan Ave.:

Original two stories about 1906. Two added stories and rear built 1914; steel and tile construction, pressed brick and stone trimmings; similar to Edgewater. Building contains elevator. Cubic contents 377,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 3/10 cents per cu. ft.	$174,551.00
Less 2 2/10% depreciation	3,840.12
Value	$170,710.88

19 #14. Lincoln Office, 1849 Larrabee St.:

Built 1903, three stories and basement, steel and tile, fireproof construction; stone base and paving brick above with stone trimmings; fireproof windows on sides and rear; Georgia marble treads on iron stairs; marble floors in corridors; marble wainscot in entrance; wood floors in first, second and third stories; concrete floor in basement; oak finish;

steam heat, electric wiring; good plumbing. Cubic contents, 255,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 3/10 cents per cu. ft.	$118,065.00
Less 6% depreciation	7,083.90
Value	$110,981.10

#15. Belmont Office, 3603 Cortland St.:

Built in 1911 and 1915, steel and tile fireproof construction; four stories and basement; original three stories and basement built 1912; two stories 1915, and electric elevator added 1917; paving brick fronts with terra cotta base and sills.

Cubic contents 446,962 cu. ft.

Reconstruction value as of Dec. 31, 1921, 51 45/100 cents per cu. ft.	$229,961.95
Less 2 6/10% depreciation	5,979.01
Value	$223,982.94

20 #16. Main Office, 230 W. Washington St.:

Built in 1887-1900, eight stories and basement, steel and tile fireproof construction; floating foundations; pressed brick and terra cotta trimmings; marble treads and lobby floors; two old elevators abandoned; exposed ventilation with blast system; oak finish; machinery room faced with enameled brick. Cubic contents, 1,010,590 cu. ft.

Reconstruction value as of Dec. 31, 1921, 61¾ cents per cu. ft.	$624,039.33
Less 13% depreciation	81,125.11
Value	$542,914.22
For addition of toilets, etc.	3,489.28
Value	$546,403.50

#17. Randolph Office, Rear 71 W. Washington St.:

Built in 1906, five stories and basement, steel and tile fireproof construction; common brick exterior; iron stairs with

marble treads; floor construction of fourth floor omitted; first floor, wood floor, maple; second floor, granite; fifth floor, concrete; tile roof on roof garden; tar and gravel roof; steel smoke stack to roof of Title & Trust Bldg.; cast iron steam boilers. Cubic contents, 417,800 cu. ft.

Reconstruction value as of Dec. 31, 1921, 51 45/100 cents per cu. ft.	$214,958.10
Less 5 4/10% depreciation	11,607.74
Value	$203,350.36

21 #18. Wabash Office, 520-32 Federal St.:

Built in 1911, steel and tile fireproof construction; seven stories and basement; terra cotta in two lower stories; pressed brick above on street front only; concrete floors, slate sills; concrete stairs with anti-slip treads; oak finish; steam heat, two tubular boilers; foundations of piles; strength for future stories. Cubic contents, 730,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 61¾ cents per cu. ft.	$450,775.00
Less 4 2/10% depreciation	18,932.55
Value	$431,842.45
Addition of check room, booster pump, elevator door hangers, etc.	7,878.20
Value	$439,720.65

#19. Toll Building, 111 N. Franklin St.:

Built in 1908. Eight stories and basement, steel and tile fireproof construction; front pressed brick with terra cotta trimmings; exposed ventilation on ceiling, blast system; tile roof; slate treads on stairs; wood floors, except in wire floors where concrete floors occur; two electric passenger elevators; oak finish; plastered throughout, steam heating and electric wiring and fixtures; good plumbing. Cubic contents, 1,010,500 cu. ft.

Reconstruction value as of Dec. 31, 1921, 56 6/10 cents per cu. ft.	$571,943.00
Less 3 8/10% depreciation	21,733.83
Value	$550,209.17
Additional hoist, improved lighting, partitions, etc.	6,447.69
Value	$556,656.86

22 #20. General Office Building, 212 W. Washington St.:

Built in 1913, 20 stories and basement, steel and tile skeleton construction; caisson foundations; stone and pressed brick fronts; high grade office building, mahogany finish, marble corridors, bronze entrances and first story elevator grilles. Cubic contents, 4,823,550 cu. ft.

Reconstruction value as of Dec. 31, 1921, 66 9/10 cents per cu. ft.	$3,226,954.95
Less 3 4/10% depreciation	109,716.47
Value	$3,117,238.48
Addition of partitions, lighting and liquid soap system, etc.	12,284.20
Value	$3,129,522.68

#21. Franklin Office, 311-325 W. Washington St.:

Built in 1918-19, 11 stories, basement and sub-basement; combination skeleton steel with reinforced concrete floor slab, caisson foundations; pressed brick and stone trimmings with granite base and terra cotta cornice; finished concrete floors; tutti colori entrance and corridor; metal doors and trim; high grade building, but generally unsubdivided. Cubic contents, 4,600,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 61¾ cents per cu. ft.	$2,840,500.00
Less 1% depreciation	28,405.00
Value	$2,812,095.00

23 #22. Stewart Office, 7559 Eggleston Ave.:

Built in 1913, reinforced concrete construction; three stories and basement; pressed brick with stone base and terra cotta trimmings and cornice on front, sides and returns; concrete floors; oak trim; tutti colori stairs and platforms. Cubic contents, 360,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$177,840.00
Less 3 4/10% depreciation	6,046.56
Value	$171,793.44

#23. Rogers Park Office, 1618 Pratt Ave.:

Built in 1914, three stories and basement, reinforced concrete construction; pressed brick fronts with stone base and trimmings and cornice; finished concrete floors, tutti colori solid stairs; tutti colori tile platforms; steam heat, electric wiring and fixtures; modern plumbing; oak finish. Cubic contents, 377,250 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$186,361.50
Less 3% depreciation	5,590.85
Value	$180,770.65

#24. Irving Office, 3312 Belle Plaine Ave.:

Built in 1914, three stories and basement, reinforced concrete; pressed brick with stone base, entrance and trim-
24 mings, terra cotta cornice; similar to Stewart Office. Cubic contents, 394,182 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$194,725.91
Less 3% depreciation	5,841.78
Value	$188,884.13

#25. Beverly Office, 1620 W. 99th St.:

Built in 1914, three stories and basement, reinforced concrete construction; pressed brick with stone base, entrance

and trimmings, terra cotta cornice; similar to Stewart Office. Cubic contents, 162,325 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$ 80,188.55
Less 3% depreciation	2,405.66
Value	$ 77,782.89

#26. Pullman Office, 65 W. 113th Pl.:

Built in 1915, two stories and basement, reinforced concrete construction; similar to Stewart Office. Cubic contents, 220,140 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$108,749.16
Less 2 6/10% depreciation	2,827.48
Value	$105,921.68

25 #27. Prospect Office, 6318 Claremont Ave.:

Built 1915, reinforced concrete construction, three stories and basement; pressed brick with stone base to first story; sills, stone trimmings and cornice on front and returns, and pressed brick on entire north side; tutti colori stairs and landings; concrete floors; rear stairs of concrete; tar and gravel roof and copper skylights and flashings. Cubic contents, 409,700 cu. ft.

Reconstruction value as of Dec. 31, 1921, 51 45/100 cents per cu. ft.	$210,790.65
Less 2 6/10% depreciation	5,480.56
Value	$205,310.09

#28. Austin Office, 5049 to 5051 Fulton St.:

Built in 1916, reinforced concrete construction; pressed brick with stone base and trimmings and terra cotta cornice; similar to Rogers Park. Cubic contents, 434,450 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$214,618.30
Less 2 2/10% depreciation	4,721.60
Value	$209,896.70

26 #29. Calumet Office, 2211-19 Wabash Ave.:

Built in 1917, four stories and basement, reinforced concrete construction, pile foundations; pressed brick, granite base and terra cotta trimmings, and cornice returns on each side, alley faced with pressed brick, tutti colori stairs and landings; paving brick parapets; concrete floors. Cubic contents, 404,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 53½ cents per cu. ft.	$216,140.00
Less 1 8/10% depreciation	3,890.52
Value	$212,249.48

Old portion built in 1900, common construction; common brick exterior, wood floors; wooden connection to new building. Cubic contents, 111,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 25¾ cents per cu. ft.	$ 28,582.50
Less 16 2/10% depreciation	4,630.37
Value	$ 23,952.13

#30. Lafayette Office, 2238-44 W. 37th St.:

Built in 1917, three stories and basement; similar to Calumet. Cubic contents, 326,245 cu. ft.

27

Reconstruction value as of Dec. 31, 1921, 53½ cents per cu. ft.	$174,541.08
Less 1 8/10% depreciation	3,141.74
Value	$171,399.34

#31. South Chicago Office, 8858 Marquette Ave.:

Built in 1917, three stories and basement, reinforced concrete; pressed brick with stone base and terra cotta trimmings and cornice; similar to Stewart Office. Cubic contents, 352,365 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$174,068.31
Less 1 8/10% depreciation	3,133.23
Value	$170,935.08

#32. Hyde Park, 6041 Kenwood Ave.:

Built in 1915, four stories and basement, reinforced concrete construction; pressed brick with stone base to first story and terra cotta trimmings and cornice; similar to Stewart Office. Building contains elevator. Cubic contents, 675,700 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$333,795.80
Less 1 8/10% depreciation	6,008.32
Value	$327,787.48

28 #33. Kildare Office, 4915 Warner Ave.:

Built in 1917, three stories and basement, similar to Rogers Park, but better quality of exterior and general details. Cubic contents, 404,500 cu. ft.

Reconstruction value as of Dec. 31, 1921, 49 4/10 cents per cu. ft.	$199,823.00
Less 1 8/10% depreciation	3,596.81
Value	$196,226.19

#34. North Division Barn, 2614 Elston Ave.:

Built in 1907, common construction; common brick exterior; marble floor in office; wood stables and mangers, with wire guards above, plank floors, runway; office and garage steam heated; concrete in tracking-in space. Cubic contents, 409,294 cu. ft.

Reconstruction value as of Dec. 31, 1921, 15 4/10 cents per cu. ft.	$ 63,031.28
Less 11 6/10% depreciation	7,311.63
Value	$ 55,719.65

Concrete garage 16x100 and 12 ft. high, with metal roof and divisions evidently built later than barn. Cubic contents,
29 19,200 cu. ft.

Reconstruction value as of Dec. 31, 1921, 12⅓ cents per cu. ft.	$2,368.00
Less 11% depreciation	260.48
Value	$2,107.52

#35. South Division Barn, 55th and C. R. I. & P. Tracks:

Built in 1907, three stories and basement, common construction; common brick exterior; unplastered, except in office; plank floors in first, second; wood floors in third; concrete floor in basement; 4,000-lb. elevator machine; freight elevator; plank stalls and mangers; wire guards on stalls. Cubic contents, 399,280 cu. ft.

Reconstruction value as of Dec. 31, 1921, 18 6/10 cents per cu. ft.	$ 74,266.08
Less 12% depreciation	8,911.93
Value	$ 65,354.15

#36. Central Division Barn, 1521-37 W. Harrison St.:

Original building built in 1910; addition built in 1917; reinforced concrete construction; pipe foundations; generally unplastered; concrete floors; steam heated; pressed brick front. Building contains elevator. Cubic contents, 1,680,000 cu. ft.

Reconstruction value as of Dec. 31, 1921, 25¾ cents per cu. ft.	$432,600.00
Less 2 7/10% depreciation	11,680.20
Value	$420,919.80
Additional ventilation installed 7-1-20	18,303.14
Value	$439,222.94

#37. Morrell Park, 47th and Kedzie Ave.:

Erected in 1897. Three stories and basement; steel and tile fireproof construction; brick walls with terra cotta trimmings; plastered throughout; steam heating; electric wiring and plumbing complete. Cubic contents, 88,688 cu. ft.

Reconstruction value as of Dec. 31, 1921, 46 55/100 cents per cu. ft.	$ 41,284.26
Less 9 8/10% depreciation	4,045.87
Value	$ 37,238.39

The total reconstruction value, as of Dec. 31, 1921, for all buildings is $13,430,656.55, and less depreciation, is $12,932,972.36.

HOLABIRD & ROCHE,
Architects.

31 EXHIBIT "B" TO STIPULATION ENTERED INTO BETWEEN COUNSEL FOR PARTIES IN OPEN COURT, TUESDAY, APRIL 15, 1929.

State of Illinois, } ss.
County of Cook. }

EDWARD A. RENWICK, being first duly sworn says:

That he is a member of the firm of Holabird & Root, architects, located in Chicago, Illinois; that it has been his duty in said office to make preliminary estimates, take the bids and award contracts for his firm; that in this connection he has checked construction costs and kept cost records for a period of over forty years; that during that time his firm has erected, as architects, about $140,000,000 of buildings in Chicago, including many buildings now owned and used by Illinois Bell Telephone Company; that beginning in 1910, his firm began the building of telephone buildings for the Chicago Telephone Company (now Illinois Bell Telephone Company), and since that date they have erected about 100 buildings for said Company.

That the records of these buildings as well as other buildings erected by his firm are kept, and that from the data so obtained, he bases his judgment upon the cost of the particular type of building per cubic foot, and that this has been a method which has been successfully used in determining costs. Ordinarily these estimates are made prior to the awarding of contracts, as a guide to the owner. That these estimates

have been extremely accurate, and that it has been his duty in the office to make such estimates.

32 That he made, as of December 31, 1921, an appraisal of the cost to reproduce the buildings of Illinois Bell Telephone Company in the City of Chicago; that this appraisal was made by an examination and inspection of the buildings by affiant, and by applying to the cubic contents of each building, a figure representing the cost per cubic foot shown by the examination and inspection, and by the cost data in affiant's possession, to be the proper cost per cubic foot to be applied to the building.

That affiant found the cost to reproduce the buildings of Illinois Bell Telephone Company in Chicago as of December 31, 1921, to be $13,430,656.55. Subsequent to that time, costs of buildings in Chicago have increased, so that the reproduction cost new of said buildings on June 30, 1923, was at least the sum of $13,430,656; that subsequent to June 30, 1923, the costs of buildings in Chicago have increased.

33 Further affiant saith not.

(Signed) EDW. A. RENWICK.

(Acknowledgment)

In this record the American Telephone & Telegraph Company is sometimes described as A. T. & T. Co. The Illinois Bell Telephone Company is sometimes described as the Chicago Telephone Company or the Illinois Bell or the local company; the correct name being Chicago Telephone Company until December, 1920, when the name was changed to Illinois Bell Telephone Company.

WILLIAM F. SLOAN, having been first duly sworn as a witness on behalf of the plaintiff, testified.

39 *Direct Examination by Mr. Bangs:*

I reside in Madison, Wisconsin. I am a consulting engineer with offices in Chicago, Illinois. I graduated from the Electrical Engineering Department of the University of Wisconsin in 1904. I have practiced and followed the profession of electrical engineering since graduation. I have had experience in the construction and operation of large electrical properties in Montana, St. Louis, Chicago, and elsewhere. I have devoted many years to the particular problems connected with the appraisal of public utility properties for the purposes of rate making investigations, for bond issues, for mergers, and for sales and rehabilitation; that this has been done for commissions, municipalities and corporations; that during the years 1907 to 1913, inclusive, I was electrical engineer for the Wisconsin Railroad Commission, in charge of telephone appraisals and rate investigations; that while I was with the Wisconsin commission I directed and supervised the appraisal and investigation of some twenty or thirty telephone properties in Wisconsin, including the property in the city of Milwaukee. I appraised the two telephone systems in the city of Los Angeles for the Utility Commission of that city.

40 I served the city of Louisville, Kentucky, in an investigation of the local telephone situation. I appraised the street railway property in the City of St. John, New Brunswick, for the New Brunswick Utility Commission. I appraised the property of the Narragansett Electric Lighting Company for the Public Utilities Commission of Rhode Island. I have recently done other engineering work for that commission. I was consulting engineer for the Minister of Telephones of Manitoba during the period when the telephone system was changed from manual to automatic. I have appraised telephone properties in all parts of the United States to the value

of considerably more than one billion dollars. Among some of the larger properties I have appraised are the Kansas City Home Telephone Company, the entire Kinloch telephone system of St. Louis, the entire telephone property in the District of Columbia, and the entire Bell properties in the states of North Carolina, Mississippi, Tennessee, Ohio, West Virginia, Maryland, Massachusetts, Rhode Island, Maine, New Hampshire and Vermont. I also served in the aircraft production division of the army, with the rank of captain. I was transferred to the post office department by order of the President to assist the Postmaster General as engineering adviser during the period of Government control of the wire systems.

41 I have made an appraisal of the property of the Illinois Bell Telephone Company, used and useful, in rendering telephone service in the city of Chicago. Briefly the method was as follows: The expenditures for construction in each year were raised to a constant level of the price level of June 30, 1923, by the application of certain ratio factors which converted the expenditures in any given year to the level it would have cost if they had been built June 30, 1923. I started with the plant values and plant costs and data which was available in 1911. At that time a very elaborate field inventory of the property of the Chicago Telephone Company had been prepared, and it had been appraised at prices which represented the cost of building the property as of the year 1911—I think in August. That constituted the starting point for the appraisal which we have prepared as of June 30, 1923.

42 The ratio of the expenditures between 1911 and 1923 were determined and the property existing in 1911 was correspondingly raised to the 1923 level, and in like manner the expenditures for the property in each year thereafter were raised to the 1923 level, and from the figures so determined was deducted the sum of the plant retirements raised to the same level, which resulted in a figure representing the plant value as of June 30, 1923. The price levels used for labor and material entering into the construction of the property were determined by a very elaborate study made of the costs of

material and of labor in each year from 1911 to 1923. This study was made by me or under my supervision, and occupied several months' time for a large number of men.

I formerly made an appraisal by this same method and testified thereon before the Illinois Commerce Commission in
43 case No. 11894. The method of the appraisal in that case was the same as the present method, with the exception of some modifications of detail in the present appraisal.

Overheads or undistributed construction costs are certain expenditures which are not applicable in general to each particular kind of plant. Those expenditures are, as a rule, expressed as a percentage of the entire plant. Such items as engineering, interest during construction, administrative and legal expenses, are typical examples of the items that I mean.

The Byllesby & Arnold appraisal had included items for overhead expense in their appraisal. In order to treat their appraisal in the same way as the expenditures in the succeeding years it was necessary to deduct all of the overhead expenditures which they had included in their appraisal, and that
44 was done. Any overhead expenditures found in the books of the Illinois Bell Telephone Company subsequent to that date were also deducted. By this method I arrived at a judgment as to the reproduction cost new of the property of the company in Chicago, used and useful, as of June 30, 1923.

(Plaintiff's Exhibit 1, being a document entitled "Appraisal of property Illinois Bell Telephone Company, Chicago Division, as of June 30, 1923" marked for identification.)

45 The result of my finding as to the reproduction cost new of the property is indicated on page 1 of plaintiff's Exhibit 1. The books and records of the company are kept in accordance with the Interstate Commerce Commission classification of accounts, and the figures on page 1 (plaintiff's Exhibit 1) in the left hand column—for instance, 207, 211, 212, 221, etc., represent the classification as prescribed by the Interstate Commerce Commission. In account 212, for instance,

are kept all the records of the cost of buildings. In account
46 211 are kept the records of the cost of land. The figures shown for land and buildings were taken from an appraisal in the case of the land by Mr. Houston, and in the case of the buildings are the figures of Mr. Renwick.

We took the records of the expenditures in each of these accounts and converted them to the June 30, 1923, cost level. The details of each account and the way in which the values were transferred from the level at which they had been made to the 1923 level are shown in the succeeding pages (of plaintiff's Exhibit 1). Taking a specific instance, on page 8 are shown the expenditures in each year, under the account 221, central office telephone equipment. This account includes all of the switchboards in the city of Chicago and the expenditures for that account during each year. For instance, in the year 1912 the books show expenditures of $899,224, and in 1914 there was $2,252,109 expended for switchboard equipment; and in like manner the expenditures for each of the other years
47 are shown. In the third column on page 8 are set out ratio factors by which the amount given in the second column must be increased in order to show what that same expenditure would have cost in 1923. For instance, an expenditure of $899,224 in 1912 would have cost $1,459,980 in 1923. The determination of the factors by which that expenditure of $899,224 is raised to $1,459,980 is shown on pages 59 and 60, on which pages are shown in considerable detail the principal parts that constitute the makeup of the switchboards. These principal parts have been priced out at the price level shown in each of the succeeding years. For instance, in 1912, the cost of one subscriber section was $237.66; the cost of fifty-one subscriber's cord circuits was $1,151.07. In 1923 the same two items would have cost $560.70 and $1,850.79 respectively. I don't think it will be necessary to read all of these items, but the summation shown at the bottom of the page has simply been converted to a ratio factor. That is, taking the year 1912 we find that the total is $12,843, and in 1923 that same group of material and labor would have

cost $20,853.13; so that you would have to raise the 1912
48 expenditure by 62.36% had it been built in 1923. If you will refer back to page 8, you will find that the factor opposite the year 1912 is 62.36, which is identical with that shown on page 59 for the same year. In like manner any other year the factor would be found by referring from page 8 to page 60 for each year. Substantially the same method follows throughout the accounts. Some accounts require a slight amount of modification in view of the peculiar nature of the account.

If you will refer to page 10, you will find that the actual expenditures for station apparatus are set out in the second column, and in the third column are the factors by which these expenditures have been converted to the 1923 cost level. On station installation you refer to page 11. In the same way the expenditures in each year have been con-
verted to the 1923 cost level by the application of these
49 factors. The actual expenditures in each year for these two accounts were taken from the books of the company. If you will refer to pages 103 and 104, we have taken a typical group of station apparatus on pages 103 and 104 and priced that equipment throughout for each of the years in the same manner as the central office equipment is priced out. You will find at the bottom of page 104 a series of factors. In 1912 it is 85.26, the same for 1913. In 1914 it is 84.07, and if you refer back to page 10 you find these same factors have been carried forward. On page 105 is a slight deviation from the method described heretofore. The factors were determined for station installation by a somewhat slightly different method. The total expenditures for each year are given in the first column, and the number of new installations are given in the second column. Dividing the first column by the second column you get in the third column the cost per installation for each year. Then that unit cost for each year is related to the cost on June 30, 1923, which is shown at the bottom of the page, $10.839, so that the factors on page 105 have been carried forward to page 11.

50 As to the item "miscellaneous $1,044.69" (page 1), I don't know exactly what that item was. It is a small item that appears on the books, and I cannot give you a satisfactory answer as to what it was. It was some small expenditure that appears on the books of the company. I did not go to any great trouble to determine just what it was. Ordinarily when an appraisal is made by the inventory and unit cost method it is necessary to make some allowance for the omissions which the field men may have made when they inventoried the property, and ordinarily it is customary to make some allowance for contingencies. Allowance for them would not be necessary under this method, because we assumed that the books show all of the expenditures so that it would not be necessary to make any allowance for omissions and contingencies, except on that portion of the Byllesby & Arnold appraisal which we have included in this report. That re-
51 port was made by the inventory and unit cost method, and it had been necessary to make an allowance for omissions and contingencies in that report, so we have carried only that portion of it forward.

As to my overhead or undistributed construction cost items, the engineering, of course, is the technical work of laying out and designing the telephone property. The company has employed a very large and very competent engineering staff, and they are constantly engaged in the various engineering problems connected with the building of property. The allowance for engineering in the cost of reproduction has been taken as 5%, which in my opinion, is very conservative, because in the past twenty years I have made many investigations of the cost of engineering properties of various kinds and find that it varies, going up as high as 7½%, in some cases as high as 10. I have known cases to go as low as 3½%, but in my opinion to reproduce this property an allowance of 5% would be a minimum. The administrative and legal item of 2% is an allowance for the legal expenses and general administrative ex-

penses of administering the property during the period
52 of building. That figure is based on not only an investigation of the records of the present company but my experience arrived at by the study of similar items for
53 properties in all parts of the United States. The next item of insurance is very largely compensation and casualty insurance, slight allowance for fire insurance on certain parts of the building and contents thereof during construction only. Taxes during construction is based on the property taxes that were expended in the year 1923. That is, the rate was determined from those expenditures in 1923 and was applied to that portion of the plant built which had not been put into service. That item and the item for interest during construction have been calculated only on the plant in the process of construction. Interest during construction is the moneys that would be expended from the time construction started until the property was put into service.

All these items were necessarily incurred during the reproduction of the property. They are not only necessary, but are actually incurred in the ordinary conduct of the company's business. They are not always incurred in the same
54 amount as shown here. The amount that is necessary in an operating property is not always the same that would be necessary for the reproduction of a new property, so that in some degree all of these expenditures are shown on the books of the company, with the possible exception of the taxes, because, as I recall, the tax item is not capitalized although the expenditure was made.

These allowances are almost invariably applied in the form of percentages. I am familiar with the percentages of overhead allowed by the Public Utility Commission of Illinois and by the Illinois Commerce
55 Commission by having read their orders. As I understand the order of the Illinois Commerce Commission dated August 16, 1923, an allowance of 12% was made, but that was an additional amount. It was presumed, as I read

the order, that a certain amount of overhead had been included in the plant values as submitted to the Commission. I have not as yet explained that up to 1920 it had not been the practice of the company to capitalize all of these costs, and the Commission in this order, as I understand it, allowed 12% for this additional amount that had not been capitalized. That was the Illinois Commerce Commission, and the Public Utilities Commission in December, 1920, applied 15%. I do not recall offhand just what my percentage is. It is practically 17%, leaving out the $551,264 of omissions which had been included in the Byllesby & Arnold appraisement.

56 The item "general equipment, $1,387,375" constitutes such things as furniture and fixtures, motor vehicles, tool equipment, shop equipment, and things of that general nature. As I recall, that figure represented the amount shown on the books of the company as of June 30, 1923. The figure of $145,248,344 is, in my opinion, the minimum amount for the reproduction of the physical property only used and useful as of June 30, 1923. By physical property I mean the poles, wire, cable, buildings, switchboards and whatnot; that is, the property described on page 1 of the exhibit (Plaintiff's Exhibit 1).

57 (Page 1 of Plaintiff's Exhibit 1, and the other pages referred to by number by Sloan, admitted in evidence.)

58 *Cross-Examination by Mr. Haight.*

I have never operated or built telephone plants myself. The only inventory that I had to deal with in reaching the results I have testified to was the 1911 inventory of Byllesby & Arnold. I can give in total the amount of the overhead items

59 I deducted from that 1911 inventory. I will give it in two ways. (Agreement in open court between counsel that the figures in the Byllesby & Arnold appraisement as testified to by Sloan shall be considered to be the result of that appraisal.)

The cost of reproduction we considered (Byllesby & Arnold) was $27,052,047, and after deducting brokerage, car-
60 rying charges, and all other overhead, we arrived at $22,-113,328. That would be almost $5,000,000. I don't know whether you specify brokerage as overhead, but that is one of the items included in the two figures I gave you. I have it broken down this way: Brokerage and carrying charges, including interest, $2,218,044. The difference between the first two figures I gave amounts to $4,938,720, and that is slightly over 22%. The brokerage item is almost exactly 10%; that is, brokerage, interest and carrying charges. These three items are almost exactly 10%, so that would leave a resi-
61 due of about 12% for the rest. That is, 12% of $22,113,-327.

It is correct that I appraised four items of property grouped into central office equipment, sub-station equipment, exchange lines and toll lines, if by lines is meant all kinds of out-
62 side plants like cable and things of that sort. Items or accounts numbers 221 and 222 (page 1 of Plaintiff's Exhibit 1) can be grouped as central office equipment. Items or accounts numbers 231 to 235, inclusive, can be grouped as the sub-station group as a broad, general grouping. Items 241 to 246, inclusive, can be properly called exchange lines. They are really not lines, but they are ordinarily called so. The group 251 to 255, inclusive, will come under the same category and would be toll lines.

I start at an appraisement in 1911 of $22,113,328. It is hard to say how much of that identical property was in existence on June 30, 1923. Of course the retirements were made from that property as well as all other property. I could not
63 answer your question as to how much of that property was in existence on June 30, 1923, specifically. It all might be there or none of it might be there. I would say offhand that the right of way was probably there. There probably was a portion of the central office equipment. I would not expect that very much of the other equipment of the cen-

tral offices would be there. I would not think that any of the station apparatus would be there, although you might occasionally find one old instrument that had been in a good many years. I would not expect you would find much interior block wire, probably not many private exchanges. You would find some of the poles, some of the cables, very little of the wire, practically all of the conduit, possibly a substantial portion of the underground cable. I have no opinion as to the percentage of the identical items that might be in existence June 30, 1923.

64 Explaining further, if you will look on page 4 (Plaintiff's Exhibit 1), the fourth column from the right hand edge, you will find a total of $27,000,000 plant displacement, actual displacement, as against $22,000,000 in Byllesby & Arnold residue. Roughly I start with $22,000,000 worth of property in 1911, and from 1911 to 1923 I remove $27,000,000 worth. The property I have in mind, when I speak of the appraisal of property as of June 30, 1923, is all of the plant that had been built up to 1923; that is, all the plant that remained after displacements had been taken out.

As to whether there is any reasonably certain method of coming to a true appraisement of the value of that property without an inventory, the method I have used will give results just as accurately. Let me point out that no method known will give a perfectly accurate
65 answer. Neither the inventory and appraisal method, nor this method, nor any other method subject to human error will give an answer that anyone can swear is 100% accurate. This method will give just as accurate an answer as the others, always assuming that the books are properly kept. As to your question whether I am just as satisfied with the figure I give adopting the method I use as I would be if I had had an actual inventory as of 1923, I will answer this way: My method probably gives an answer that is somewhat lower than the cost of reproduction would give. If I were trying to get the last nickel of value out of the property, I probably

would not be as satisfied as I would by the other method, because inherently this method will give a somewhat lower figure than the unit cost method, but it is substantially accurate. I would say it represents the minimum cost of re-
66 producing the property as of June 30th. I think the reproduction unit cost method would probably give an answer somewhat higher. I would say it would be in the range of 5%. If I were going to buy that property I would rather use this basis without any question than an inventory to find its real value. The book cost in 1911 was $23,655,539, and the Byllesby & Arnold appraisement, exclusive of overhead, was $22,113,000, about a million and a half under the books.

I don't know that this method I have used has any particular name. You could designate it in two or three ways. I think a good name for it would be a price ratio method
67 or a cost ratio method. It would be substantially correct to also describe it as an adjusted book method.

I used this same method in the 1919 and the 1921 appraisal. Outside of this particular instance I have used this method in valuing property. I testified before the Illinois Com-
68 merce Commission in Commission Case 11894. I think I testified in that case that I had never applied this method of making a valuation, on any other property that I had appraised; that there was one occasion when this method was used by another engineer, but in that case there was also a very elaborate field inventory of the property. I have used this method since then in two cases—Danville, Illinois, a telephone property, and Washington, D. C., a telephone property. I don't know just my words in my previous testimony. I don't think I had made any appraisal similar to this prior to the time I did it in this case at the other hearing, but between 1919 and the present time I have done those two mentioned. I think there were field appraisals in those cases. I have
69 made other appraisals on other bases. In the Danville case I could not tell when the field appraisal was made with reference to the time that I gave my valuation. I will have to look that up. It is, roughly, about three or four years.

I would like to refer to my associate. We are both quoting from memory, but Mr. Cook tells me there was an inventory and appraisal made at Danville about 1915, and the index method was used in 1922 or 1923—somewhere
70 around there. In the Washington case the dates were much closer, from 1924, when the inventory and cost method was used, to 1926 for the conversion date.

In arriving at my value as of June 30, 1923, I have made no assumption as to what proportion of it was used and useful. I have made no inquiry into the question as to what percentage of the property was used and useful as of June 30, 1923. I was asked to find what the reproduction cost of the property was without any particular consideration of that fact. In determining the cost of reproduction new, the plant that was there on June 30, 1923, was what is to be reproduced new.
71 I did not assume any percentage of the construction was piecemeal construction. Substantially I have assumed, in taking book values, that none of the construction was piecemeal construction. I am guided in that statement by the fact that during this period from 1911 to 1923 there was substantially eighty-six million dollars of plant construction. The average rate of construction was about seven or eight million dollars per year. When a plant is constructed in that manner there is no opportunity for any so-called piecemeal construction. The work of all betterments is carried on under intense, full working day conditions. There is no more piecemeal construction in the ordinary construction of this plant when it is being built than there would be in reproducing
72 it. I do not accept your term "piecemeal construction." I don't think there is such a thing, but assuming that you want to use that word, my investigation of this property has led me to the conclusion that there is no more work of that character done in the way the property is built than if it were being reproduced. You can't expend seven or eight million dollars a year in a city the size of Chicago and do it in a piecemeal manner.

As to your question of the other things that would interfere in new construction in an operating plant against one built up new in a unified system, I don't think that would be a factor that would affect the thing, as it
73 would be far outweighed by the statement I made a few minutes ago that this method would inherently give you a lower result. There is this factor in arriving at the cost of reproduction as I have done. I have not taken into consideration the tremendously increased cost that would be incurred if this property were built today over the difficulties that were incurred when the property was built. For instance, if some conduit was put in the Loop in 1911 at $1.00 a foot, all that I can do is find what that $1.00 would be in present day dollars. As a matter of fact, under Loop conditions now compared with 1911, the cost would be tremendously increased, and that applies to practically every other part of a plant. By the word "piecemeal method" I think you are trying to convey an idea that does not exist. There is no such sit-
75 uation.

The method I have used gives consideration to all improvements in the more efficient methods as they
76 have been developed. If an improved method was developed in 1912 and carried on thereafter, it gives consideration to that. It gives consideration to reduced costs due to improved construction methods as they occur. Suppose an improved method occurred in 1914, it would omit the use of that in the year 1912 and 1913, but from there on it would include it. As a matter of fact, the things that have really improved efficiency have been the use of hole digging machines and the use of pavement cutters and the use of trucks. A very large part of Chicago could not be built by the use of pavement cutting machines or hole digging machines. You could probably use a pavement cutter more than you could a hole digger. Trucks have been in use most of the period that is included in this appraisal. It is correct that any improvement by way of methods or machines or methods of

operation in 1923 or thereafter would not be reflected in my 1912 or 1913 costs. However, that would be a very small
77 item, because most of those improvements are a gradual development and have been used in years prior, so there has been no great error introduced by reason of that fact.

I took the $22,113,328 of August 1, 1911, and increased it by a factor representing the ratio existing between the price
78 levels as of that date and as of June 30, 1923. I took my ratio between the price levels on these various four groups of account as of one date and translated them to June 30, 1923. I did that for each year; that is, I started first with the remaining period in 1911; then I took those accounts for 1912, and then I took them for the year 1913, and so on. I did this as to each one of the accounts contained in the four groups in Plaintiff's Exhibit 1. To do that I selected certain representative items in each of those accounts in each of those
79 groups.

Page 120 (Plaintiff's Exhibit 1) shows the items of property I took as representative of account 241, exchange pole lines. I took five sizes of poles, which was practically 97% of all poles in the plant, as giving a proper cross-section of the way to base my price ratio or cost ratio. Those are the poles described in the left hand side of page 120 and immediately under the word "description." I took a different quantity as to each of those five poles, and those are
80 indicated in the column headed "quantity." I arrived at that quantity by taking the total number of poles in the plant as of June 30, 1923, based on the company's records. It is not an inventory of them, but just an engineer's record of the poles, and divided all of them by the same number in order to reduce. I have forgotten whether it was 100 or 1,000; but the poles shown there present a direct relation between the total number of poles of each size. That is, for each 32½ of 35 foot poles there is 5.7 of 30 foot poles obtained from the general plant records as of 1923.

There undoubtedly were removals from August 1st to December 31, 1911. The removals were handled in substantially the same way as the additions. The factor was applied to removals, which brought them to the same cost levels as
81 the additions. We had from the books what the removals were during the period from August 1st to December 31, 1911. Those ratios of 5.7 of 30 to 32½ of 35 are not of August, 1911. They are of June 30, 1923. They are at the end of the period rather than at the beginning of the period. I used those same ratios, based upon the same class of poles which I selected throughout each year; that is, I assumed the
82 same relationship of poles in each year. I used that relationship in converting the gross additions in each of these accounts to the price levels of 1923. I am sure we used the same relationship in computing the cost indices for converting the retirements each year from August 1, 1911, to June 30, 1923. I took into consideration that some of these poles are jointly used by the Commonwealth Edison Company. That appears in the total for gross additions. Only the com-
83 pany's ownership was carried forward into the books.

The actual calculation is based on the assumption that the proportion of different sizes and classes of poles added or subtracted from the plant is always the same, or substantially near the same. The result is not affected as much as half of 1% by the fact that each year's retirements vary somewhat from the amounts set out. Half-owned poles won't appear on page 120 of the Plaintiff's Exhibit 1. That is simply a factor used to get the cross-section of the plant that would give a typical cost ratio. It wouldn't be necessary to use that factor.

The proportion of these different items added or subtracted from the plant each year varies, and in some years to a very marked extent. We have tested that out. As I told you before, the maximum variation in any one year would not have affected this answer 2% and the composite for the

entire period is less than half of 1%. I have a general
84 knowledge of the proportion of different sizes or classes of poles added or subtracted in each period referred to in this way: In order to test out the accuracy of the method we took the ten largest estimates in each account for each of the years back to 1914. In the case of poles that is about 14% of all the poles added. We took the actual poles that were erected in 1913 or 1914, priced them with the 1913 prices and again with the 1923 prices. There was considerable variation in the relative number of each size of poles, and yet that thing didn't affect it as much as half of 1%, and, as a matter of fact, it gave an answer that should have been half of 1%
85 higher than we got. We did not have the total number of poles of equal value and size added and subtracted each year for the period. All we could get would be the number as shown on the ten specific estimates that were in in each year; if we could always get the ten estimates; but we couldn't always get the ten. The number in each size and class was shown in the Byllesby & Arnold appraisal. The conditions obtaining in regard to this account of poles, as I have described them, are the same, roughly speaking, in respect to the other accounts in Plaintiff's Exhibit 1, and the same answer applies as to the effect of the varying amounts in any and each year affecting it to the most minute degree. I can tell you now the answers obtained in the way I have gotten them won't be affected as much as half of 1% by inserting what you are pleased to call the actual number in each year; that is, from the data we have used.

86 The poles in the ten estimates I checked would represent 14% of the total construction, the aerial cable 20%, and the underground cable 29%. We tested it on those three items. We did not develop the material index numbers and the labor index numbers separately for each of the years 1911 to 1923 in the report, but we tested it in the same manner as we did for material by going back and getting the gangs for each year. We had that information. It was possible to

get the number of construction gangs, the number of foremen, the number of linemen, and the number of ground men. As a matter of fact, they did vary somewhat in each year, yet the composite result is incorporated in the percentage I have
87 just given you. I combined those two into a construction cost index number on the basis of the ratio of material and labor shown by the company's construction records for each of the years in question just as shown in the reports.

In using an index number of that kind one essential feature is price and quantity, and the other one is the weighting I have used. I have just told what the error was in either of these; it was less than half of 1%. I have tested it out. I realize what you are trying to bring out, but the figures I have used prove that it is a negligible error. Without discussing the extent of this error, it is true that if there is an error in either of those factors there is bound to be an error in the
88 results, but the thing is absolutely negligible. I did not have all the facts. I had 14% of the poles, or I had 14% of the poles which I think is indicative. I had 20% of the aerial cable, and 29% of the underground cable.

If you look on pages 123 and 124 (Plaintiff's Exhibit 1), you will find the amount selected in the case of exchange underground conduit. Here I dealt with from one to twelve different kinds of conduit. I think the different kinds go up as high as about sixty, perhaps, but the vast majority or bulk
89 of the money in the plant is in those twelve sizes. I used the same weighting throughout all the years and the same items. There were undoubtedly great variations in those items over the years. In cables there was great—a quite considerable variation between 1923 and any given year. During that period the average gauge of cable was constantly decreasing, and more and more of the finer wire cables were being used. I don't think it would have any effect upon my re-
90 sults. The quite elaborate study that we have made indicates that it wouldn't affect it as much as half of 1%, and in some accounts it would be more than we got, and in others

it would be less. It is true that if, for example, in 1918 the company installed 25,000 feet of 1,200 pair 24 gauge cable, the way to have found the cost at the 1923 price level would
91 be to apply the 1923 price to that much cable of that kind.

The actual facts are we have taken a group of property in 1923 that is so typical of the entire property and the size of which constitutes such a large percentage of the total property that any variation that occurred is practically negligible. Your first statement is correct that the price of property put in in 1914 that same piece of property should be priced in 1923. In order to prove whether we have made a serious mistake we did just what I told you, and for that whole thing we have taken such a large representative portion of the plant that that whole thing is just negligible and won't affect the answer at all.

There are three controlling factors in the price of cable,— lead, copper, and the cost of manufacture. Ex-
92 pressed as a percentage of the 1923 price level, I don't know that the changes in price for copper and lead were the same, or anywhere near the same, for any single year of this entire period. I don't know that they were exactly. I grant for the purpose of your argument that they differed very widely; but, as I say, this test we made takes all that into consideration. I don't think it is as bad as your statement would imply, but there has been quite a wide variation. It is also true that the proportion of copper and lead differed substantially in the different sizes of cable. As the years have gone on and smaller wires have been used the percentage of copper has steadily increased.

I now use substantially the same method that I used
94 before the Illinois Commerce Commission in case No. 11894 to determine the reproduction cost. I meant when I
95 testified it was correct within half of 1%, that the method which you have suggested of using the exact quantities that were installed in each year rather than the cross-section which we assumed as constant in each year, introduced

an error of approximately half of 1% in the answers. That is, they were correct within that range of accuracy.

96 Page 114 (Plaintiff's Exhibit 1) shows a number of different things. It shows first the amount of percentage by which an item in a given year would have to be raised or lowered to be put on the price level of 1923. In the second line it also shows the same thing for labor. The third line shows the ratio of material to total cost in each of the years in the construction work done in any given year. The percentage shown in the third line is that percentage for material. The fourth line is the percentage for labor. Then the fifth line would be the product of the first line and the third line, and the last line would be the product of the second line and the fourth line, the result being a composite ratio factor for material and labor for construction work done in any given year. Taking the last account—exchange underground conduit— the first column, which is headed August 1 to December 31, 1911, under per cent of total cost shows material costs 39.13% of the cost of exchange underground conduit construction during the year. I got that

97 figure by analysis of the actual work done in the five months from August 1st to December 31st. As far as we could determine, they represented the facts in respect to the company's performance during that period. The 60.87% of the construction cost of exchange underground conduit in 1911 would be for labor. These two together make the 100% of the total direct cost of construction of that particular account. That is after I eliminated the over-

98 heads. These figures are based upon the company's actual experience in respect to the items that they purport to relate to for that year only, and the same is true in respect to each of the other years that appear in this tabulation and in similar tabulations.

I testified before the Illinois Commerce Commission in case No. 11894. In Exhibit No. 86, in that case I used 27.3 for materials in 1911 instead of the item 39.13 appearing on

page 114 of plaintiff's Exhibit 1 under exchange under-
99 ground conduit. To explain the difference I would have to refer to the data that we considered. The explanation that occurs to me now is that we may have made a more exhaustive study of conduit in this last report, and the construction of underground conduit has been done partly by contract work and partly by the company. It is possible that it was some different treatment of the contractor's profit in there which would account for that difference.

Anyway, the whole conduit study was revised in this
100 report, and a somewhat different method as far as detail was used as compared with the one in the previous report. I would say in general that the building by contractor is true only as to conduits and buildings.

In the same account exchange underground conduit, where I now use for the total cost of material 37.23 for the year
101 1913, I used 29.4% before the Commission. For 1914 I now use 33.13%, and before the Commission used 26.7. In 1915 I now use 31.12%, and before the Commission 25.8%. In 1916 I now use 33.19%, and before the Commission used 26.4%. In 1917 I now use 35.42%, and before the Com-
102 mission 28.2%. In 1918 I now use 30.78%, and before the Commission 27.1%. I think I recall the difference now. I think I can tell you why those are different. In the exhibit 86 which you refer to here you notice that on page 29 these percentages between labor and material are simply the percentages for specific estimates. They don't contain any of the relationship between labor and material for items which are constructed under routine estimates. That is not the difference between large construction and piece work. It represents the difference between work done on what are called specific estimates and the difference in relation between the total amount of work done and that does not contain the element of piecemeal construction that you imply. In
103 general it is true that the specific estimates are the big jobs and the other ones are the small jobs. The routine estimates, as I recall, are work done where the estimated cost

is less than twenty-five hundred dollars. It does not mean that work is done on any piecemeal basis. It means if you were reproducing the property you would still have to add that small work. For instance, when you put in twenty-five pair of cable ordinarily, whether you do it under routine or specific, we say the labor would cost about 30% of the total cost. If you put in six hundred pair cable, the relation of labor to the total is 12%. I am just quoting typical examples. These percentages are not right exactly. A large part of the twenty-five pair cable is put up under routine estimates, and most of the six hundred pair is constructed under a specific estimate. If you did both of them under either kind of estimate, the relation of labor to material would be the same. It is simply because of the fact that you do a large part of your work that involves small material, or low cost mate-
104 rial, under the routine estimate. If you are reproducing the property as an entire new job, you would have the same relation between labor and material for each size of cable, so there is no element of piecemeal injected into the thing at all.

The fourth line in the same account, exchange underground conduit, on page 114 of Plaintiff's Exhibit 1, shows the percentage from August 1st to December 31, 1911, for labor 60.87. I used 72.7 before the Commission. For 1912 I use here 62% for that item, and before the Commission used 72.7. In 1913 I use here 62.77%, and before the Commission 70.6. For
105 1914 I use here 66.87, and before the Commission 73.3. For 1915 I use here 68.88, and before the Commission 74.2, and so on.

In the account of exchange aerial cable construction on the same page of Plaintiff's Exhibit 1 material in 1911 is 56.9% of total cost. Before the Commission I used 65.1. In
106 1912 for the same item I here use 56.9, and before the Commission used 65.1. For 1913 I here use for the same item 53.6, and before the Commission 65.4. Taking the labor cost in the same account for the year 1911 I use here 43.1%, and before the Commission used 34.9. For 1912 I use here

43.1, and before the Commission used 34.9. For 1913 I use here 46.4, and before the Commission used 34.6. For 1914
107 I use here 49.2, and before the Commission used 36.4. You will find that same difference clear through. In regard to exchange underground cable, I assume there will be differences between my statement before the Commission and the exhibit here, because there is a fundamental difference in the way we consider it. I think we will find differences because of the fact that we treat the thing in a somewhat different manner. In this case we try to convert the book cost of the property to the 1923 level, and to do that we must consider the entire construction; and I still maintain that does not contain any more of what you are pleased to call "piecemeal construction" than would be encountered in rebuilding the property.

110 Mr. Wray had a tabulation in his affidavit that might throw some light on the variations in the price of copper
111 and lead. I have Wray's affidavit before me. I have no adverse criticism to make of it in respect to the point as to whether the variations in these prices of lead and prices of copper would be reflected more in large cable than they would in small cable, as to the specific page A, except that it does not represent the difference in the price of cable, because it has left out the cost of manufacture. It probably represents a variation of the price of the metal that enters into the cable.

As to your question whether my method gives any weight to any improved efficiency in labor over the period I have
113 under consideration, let me answer that by an illustration. My method converts the actual performance of any given year to the 1923 level. If some improved method were developed in 1916 it would be reflected, but it would not be reflected in the years prior to 1916. My answer intended to convey the thought that it reflected all improvements as they were developed, and I made the further statement that none of these improvements took place in any particular year; that they were scattered all through

the intervening time, and 1923, as I recall, had no particularly improved methods of either efficiency or anything else that would cause any great discrepancy between that year and any previous year. I think efficiency of labor dropped off in two years, particularly in 1917 and 1918.

114 Page 131 of Plaintiff's Exhibit 1 shows the method and data I used in developing my labor cost index. I used a typical gang for each year during this entire period and then priced out that gang at the wage levels that prevailed during the particular year under consideration; that is, the same gang for all years. The wages I used are the actual wages for that year, as near as we can determine. We made quite an analysis of that for each year. I have not tried to give any effect to change in labor efficiency, or in the output per man or per man hour during the period. What I have tried to do is to convert the expenditures in any year to the 1923 level.

115 As to labor, I think it is true that in 1917 and 1918 there was a dropping off in efficiency to some extent. That would be explained by the fact that many of the company's men were in the army, and the company was operating somewhat shorthanded. On the other hand, the construction in those two years dropped to not quite half a normal year's construction, so the weight of that in our total is rather small. There is a slight element of that in our final total, but it is rather small, because construction in those two years was small. I have not examined to determine what the efficiency was during those years to get any comparison. There has been no special study made, except certain investigations were made on subjects like cable splicing, where it seems that the time required for making splices today is greater than it was in the earlier years; because of the tremendous increase 116 of trunking, and the importance of the telephone communication system more time is actually put on splicing now than was used in 1912 and 1913 and back there. So that if you want to look at efficiency on the basis of hours per unit of work, it takes more now than it did then. On the other

hand, in 1911 and 12 the company used a certain amount of teams instead of trucks, and I presume that the trucking has raised the efficiency to some extent. However, that has been reflected throughout all the various years as the trucks came into greater use. I reflected back to the actual performance of each year. If a man took ten hours to do it in 1916, we convert that cost back to a 1923 level. I think you are confusing what I am trying to do here with what you might call a reproduction cost under present conditions, and, as I told you yesterday, if you tried to reproduce today your cost would be tremendously in excess of what I have shown. I am
117 trying to convert the actual expenditures to a present day level. You get the book cost converted to the present day level absolutely. I have not tried to reflect efficiency or lack of efficiency by factors built upon wage levels. I have tried to convert the book cost to the present day level (June 30, 1923). That difference in efficiency is such a small difference; as compared with the present day cost of rebuilding the property, it is practically nil, negligible.

I know this because I know conditions in the Loop, and
118 in such sections as Wilson Avenue and 63rd Street, which were not developed to the extent they are in 1923. Working conditions were tremendously less difficult then than they are now, and that is true more or less all over the city. That would be reflected in pole line work, aerial cable work, underground cable line work, and practically all outside work.

In Exhibit 86 before the Commission in case 11894 I set up some data very similar to some data incorporated in this
120 report. If you take the items appearing in the first four columns at the top of page 28 of Exhibit 86, before the Illinois Commerce Commission, the first column shows the percent increase in material, the second column shows the percent increase in labor, and the third and fourth columns
121 show respectively percent of material and labor in the work done in each of these years. So that if you multiply the first column by the third column you get the composite percentage of increase in material, and if you multiply the

second column by the fourth column, you get the composite percentage of the increase in labor. That is what I did. Taking the top figure on page 28, by adding those two figures together you get a composite percent for in-
122 crease in labor and material of 78.4%. I don't know what Mr. Wray did on page 15 of his affidavit. (City's Exhibit
123 1, marked for identification.) I have made a comparison between the labor cost index in City's Exhibit 1 and the one I used. I made a very careful analysis of that set of figures, and with different results. What Mr. Wray has really in fact done there is to convert every year's work to the ratio of labor in 1919. He has assumed that every year the relation of labor and material would be the same as it was in 1919, which, of course, is not the fact. What he attempted to do there is to show there is a difference between labor as I have calculated it and what it would have been if the re-
124 lation between labor and material for all of the years had been the same as it was in 1919. This is in effect what that total shows. He simply converted that back to the ratio of labor and material as it existed in 1919, and has calculated throughout what that difference was on that assumption and what it was actually in each of the years. I have not made the assumption that there was no change whatever during the period from 1911 to 1923 in labor efficiency. I have converted each year's work to its 1923 level.

125 Just referring to page 13 of Mr. Wray's affidavit, I think underground cable would be a typical illustration of why his methods lead to results that don't mean anything. In 1923 there was a very much greater proportion of work done on what was called house cable than there was in 1913. The labor costs of putting in house cables are considerably higher, very much higher than they are for ordinary underground cable. Mr. Wray's method has simply taken that relationship which existed in 1919 and converted everything back to that. If you will take the same figures in the same method that he has shown here and apply it to figures in my 1923 report, you will find that his labor under that basis is over

26% higher than the labor that I have included in my report. There was never any such condition existed, because it is a hypothetical situation. He assumes the labor each year
126 ought to be the same as it was in 1923 or 1919, which, of course, is not true. Mine is not a hypothetical situation. It takes the actual performance of each year and raises it to a common level. It converts the efficiency that the company experienced to the 1923 level. That is just what it does. If a charge went on the books of the company for ten dollars for one man's work for one day and the man did not do anything all day, I suppose we would have ten dollars there represented by nothing; but that does not prove your point. I grant that it illustrates that efficiency has something to do with the values that go on our books, but what I am trying to get across is that we have taken the efficiency that the company actually experienced each year and converted it to 1923. In other words, what I am trying to do is to find a reproduction cost of this property under the identical conditions under which it was built, and those conditions were a lot more favorable than the conditions you would have if you started to do it now. I will put it this way. If the company had a very highly efficient gang in 1916 and they did the most excellent work, you can imagine that high efficiency has been reflected in 1923 in my figures. Then, on the other hand, in 1917 they had lower efficiency. That has also been reflected in my figures.
129 Page 146 of Plaintiff's Exhibit 1 is my estimate of the expenditures that you would make in each year if you undertook to reproduce this property new. I assume it can be completed and the business attached in nine years. I first begin to give service at the beginning of the fourth year. You can take a period either forward or backwards. I am assuming that the prices remain constant during the period of construction and that it would take nine years to do it. The price level would be as of the date I selected. I assume in this
130 construction program that the relationship now existing between the Plaintiff and the Western Electric Company will be in existence and the supplies come in under the same

conditions as they now come in. I assume that they will have the same advantage as they have now with respect to the relationship existing with the A. T. & T. Company. I don't know as to the nature of any contracts in respect to the A. T. & T. and the Western Electric. All I am assuming is that they could get material from the Western Electric at the same prices they were getting it in 1923. I think the fact that
131 they have the relationship with the Western Electric Company would enable them to get materials and supplies a lot quicker and at the time they need them than if they were depending upon the general market for supplies. I think that would be true in respect to the relationship of the A. T. & T.

I find the period to do it economically would be nine
132 years. I think it could be reproduced in five years, but I don't believe that any of it could be put in service until it is all completed. If you did that, I don't think that would be the economical way to do it. You see the way I have done it I have taken a somewhat longer time, but as I have completed certain parts of the construction it has been put into service, the effect of which is to cut down carrying charges of interest, taxes, insurance, etc. I would say it might be completed in five or six years, especially if you went through the whole thing and did not try to coordinate it and put any of it in service. I think the method I have used is probably more economical. I don't believe you could do it in four years.
133 I think six years at the outside is as low as I could go in my judgment, because I don't believe the manufacturing facilities of the country, the Western Electric and any other manufacturing facilities are great enough to supply the material in that length of time, and that would assume that you did not put any of it in service, and if you did it that way your interest charges would run up fifteen or twenty percent of your total cost. Your fixed charges would, too.

We have the exact figure that the sum of gross addi-
134 tions equals plant value. That is not quite fair, because a portion of those gross additions relate to stations in and out. The sum of the gross additions from 1909 to June

1, 1923, is practically the same as the book cost. So you can say that is about fourteen years. As a matter of fact, it would be slightly longer than that, because part of those gross additions are stations which are in and out. It would not be quite a fair comparison to say that under my program it would take nine years and under the program that has actually been followed in developing that it has taken fourteen years.

135 Very possibly the Edison Company put in thirty millions of dollars for extensions to its plant in the one year of 1924. They could do that by putting in just a few power plant stations with their turbines. They have to do the same things that, broadly speaking, the telephone company does, but they deal with very much heavier units. That is, a single turbine would cost a million dollars. I don't know just what a turbine costs. It is possible they put in Chicago over two million feet of conduit and two million three hundred thousand feet of underground cable in 1924. I don't know. I haven't the figures. I don't know what sort of a change it would make in my set-up on page 146 if the period of construction was changed from nine years to five years. You
136 would have to condense all of the expenditures in a fewer number of years. It would increase interest tremendously. I now have $9,604,000 of interest, and under the five-year program that would be much greater, possibly double, because the plant would be built at such a rate that it could not be coordinated, and none of it put in service until it was all completed, and expenditures would have to carry interest until it was completed. I think under the program I set up interest is kept at the minimum. The same thing applies
137 to taxes: taxes would be greater. This particular calculation for interest is shown on page 145 (Plaintiff's Exhibit 1). This assumes that the money for the year is raised at the beginning of that year. Simple interest has been used. We have $700,000 first year. The engineers are given $400,000 and the administrators and lawyers $300,000, and the $700,000

is gone; $42,000 in interest, and you would have to raise
138 that money some place. We assume in this case that the $742,000 goes in at the beginning of the year. I have not compounded interest. As a matter of fact, it should have been compounded, because until service starts they would have to borrow money, not only to do their construction work, but for their interest. This is calculated at the simple rate of interest. I am assuming that during these nine years of construction prices remain constant throughout. That never has happened, as a matter of fact. The interest paid
139 during the first year is on the $700,000, and the second year the interest is paid on the total amount appearing the second year, and the third year, and so on. If this plant was built in five years instead of nine years, the interest item would be greatly in excess of the figure I have calculated. Turning to page 145 you will find the third column there is entitled "Accumulated cost on plant ready for service less interest." As soon as the plant goes into service the interest on it is stopped. The figures on page 145 are taken from pages 148 and 149. If you will refer to those pages, you will find that the totals which have been carried forward to page 145 come from page 149 down to the point where it says "Interest during construction." I should have drawn a line there to show what that total was before interest.

140 I put part of the plant in service in the fourth year. Perhaps I put my first part in service in the fifth year before the Commission. I don't recall. I thought after giving greater study to it this is probably a more economical proposition, more in accord with what my studies indicate. I assume that 6% is what money would cost them to get. I have not credited any income on moneys on hand, nor
141 have I compounded it. Particularly on switchboards I assumed the present relationship with the Western Electric Company, and that the switchboards and equipment would be paid for under the present contract. It appears in the construction expenditures on page 147 in the dollars expended for switchboard equipment. There is a certain contract be-

tween the Western Electric Company and the Bell Telephone Company here. The contract has been modified, as I recall it. I think at that time it was 50% of the cost of the board at the time of delivery, although it might have been at the time the board was ordered. I will have to verify that.
142 In general we assumed that the payment would be made under the terms of the contracts that were in force at that time. That has been changed in the last year or two. I make that assumption as to switchboards as of June 30, 1923, and I used the contract that was in force on June 30, 1923, and assumed that it would extend throughout the nine year period I have set up for the period of construction. I
143 assumed that all of the million and a half appearing in the third column "central office equipment" would be bought from the Western Electric Company under the contract that was in force on June 30, 1923. As to all other purchases, I assumed they would be paid as bought, and that the money was provided in advance at the first of each
144 year. This third year in respect to switchboard equipment I had a million and a half dollars in money at the beginning of the third year. A portion of the equipment would be installed and in service in the beginning of the fourth year. The million and half charged at the beginning of the third year is not credit. It is the amount of money that they would have to pay down to get a certain amount of equipment. If you are going to put in a switchboard and you have to pay 50% on it on the date of your order,
145 that would mean that you had those three million dollars' of stuff and paid one and a half million. If the terms of the contract was 50%, then in this set-up three million dollars' of equipment was ordered during the third year. If the period of construction is reduced from nine years to five years, it will greatly increase the taxes and interest. The increase grows out of the fact that I carried part of it as
146 operating taxes and interest. The engineering shown is that related to the construction of the plant, and is not engineering in relation to the operation, and the same is true

as to these other overhead items appearing on page 146 of Plaintiff's Exhibit 1. I won't make any definite statement as to how much the taxes would be increased, by changing the period of construction from nine years to five years without calculating. It would greatly increase it, because any
taxes I have assumed would be charged to operation
147 would have to be charged to construction. You have a
construction period of nine years and you charge each year that portion of the taxes which is to be apportioned to the part of the plant which has not gone into service, and the taxes on the part of the plant which is in service you charge to operating expenses. On the five year hypothesis none of the plant was put in service until the end of five years, and therefore you would have five full years' taxes, whereas as to the nine years you would have only a fraction
in each year charged to the construction period, and that
148 is the reason for the distinction. I could make a com-
putation as to how much difference there would be in taxes between the five year period and the nine year period. The same would apply on insurance between the five year program and the nine year program. The insurance there would be somewhat different. Insurance as we have calculated has only been charged against the labor portion of the
construction forces. I wouldn't say that would be greatly
149 different. As to administrative and legal, I don't think
it would make much difference whether a five year period or a nine year period was used. It would take about 2% of the cost of the job to administer. I think engineering would still be about 5%. In estimating taxes I have taken into consideration the facts as to when valuations are made here in Chicago by the board of assessors. We have assumed that
it is assessable on April 1st of one year and paid April
150 1st of the next year. I assume the building is taxed, to-
gether with the land, on April 1st of the previous year. That is, it is a year prior to the time we pay it.

In respect to the overhead items I first analyzed the actual cost of the gross additions in each year for 1911 to 1923 in-

clusive, and eliminated from those costs the items of overhead for engineering, administrative and legal, insurance, taxes during construction, and interest during construction. We took the total amount out. If you will turn to page 2 of our report (Plaintiff's Exhibit 1) two figures are given, one with capitalized overhead and the other without. We did
151 take them out by years. I will have to take a little time to tell how much I deducted for the year 1923. The
153 practice of the company is not to capitalize insurance on the books of the company. That would be true of taxes, too, as I recall it.

The column beginning with the years 1911 to 1919 on
206 the tabulation marked for identification "City's Exhibit 2," shows that portion of the engineering that was charged to construction during that period. It is about
207 1.98% of the figure shown in column G. The total figures appearing in the column headed "engineering B, general C, interest during construction D," for the years 1920 to 1923 including the first six months only of 1923, are 6.6% of the gross additions excluding overheads and gross wiring
208 gain shown in column G. Taking the whole period from August 1, 1911, to June 30, 1923, the total of all the items appearing in engineering, general and interest during construction is 3.77% of the total amount found in column G. I used for overhead a figure which is practically 17%.

Gross wiring gain in column E is explained as follows: When the company installs a telephone and later removes the phone, the wiring is ordinarily left on the premises, but it is deducted from the cost on the books; that is, it is
209 removed from capital account. If later the telephone is put back and that wiring is used, then that wire is transferred back to capital account; that is, put back in the book cost of the property. The reason for excluding it here in order to determine overheads is that the engineering, etc., and other general expenses have already been included in it once; so when it is put back the second time it would not be

proper to relate the overheads to that. That is the reason for deducting it in this last column.

I compute engineering costs on the basis of it being a new venture, because I am trying to arrive at a figure for the physical property, on the 1923 value, which would be the minimum cost of reproducing. I think, as a matter of fact, it is too low; but what I am trying to arrive at when I apply overheads on it is the value of the property today on the minimum reproduction theory, and therefore I have in-
210 cluded proper overheads. On the reproduction theory I have tried to arrive at the sane and reasonable cost of reproduction of the property on the basis of the conditions under which it was erected, and have not tried to include any fantastic or unusually high costs that you would actually incur if you did build it today; but I have included, in order to arrive at the value of the property, reasonable percentages for engineering and other costs that were not incurred when the property was built. I don't denominate either the 3.77% overhead or the 17% overhead as fantastic, but I do denominate as unusually high the cost you would get if you actually tried to reproduce this property today. When you take these figures of 3.77 you should take note of the fact that up to the year 1920 all of the overheads were not capitalized. If you will observe that sheet (City's Exhibit 2), you will find
211 that columns C and D are vacant until the year 1920, Such items prior to 1920 were probably paid as operating expenses, but they were capital charges. There is all the evidence in the world that engineering was done prior to the dates given here. The property could not be built without that kind of engineering. The property is there; therefore such costs were incurred. They are not reflected here.
212 If engineers were building a new plant for the company, to be put in operation on June 30, 1923, they probably would not build a facsimile of the plant as it then existed. I am quite sure that their costs would be greater than the figures shown here. I did not use the adjusted book value method on these overhead items, because I was trying to arrive at the reasonable reproduction cost.

Cross-Examination by Mr. Clausen.

213 I don't know that the plaintiff ever had such sum as $32,670,769 invested in property and not in service as shown in the third column on page 145 of Plaintiff's Exhibit 1. That is not a theory; it is my best judgment of how the property would be rebuilt if it were reconstructed. In my item of $443,000 plus for insurance I considered casualty
214 and liability insurance. I considered this insurance should be carried as to all of the property where labor is involved. I based it on the experience of the company for five years. The accident and damage account during that period was $730,000 and some odd dollars on a $39,000,000 payroll, which gave a figure of 1.87% for accidents and damages. Then I took that percentage of the payroll and found that 15½% of the construction during that period was for payroll; so I took 15½% of the 1.87%, which gave me what I considered a very reasonable allowance for accidents and damages that would be incurred in construction. Then
215 I assumed that the first 15% of the payroll during the construction period would be at the commercial rates for casualty and liability insurance, and I assumed that the other 85% would be at the same rate as the company now carries in their employees benefit fund, which is only about one-third of that of the commercial rate; and by applying those three items I arrived at the total of $443,520.

Re-direct Examination by Mr. Bangs.

I will explain by accounts why the overheads as shown in City's Exhibit 2 are and should be less than the overheads which I have estimated as proper in determining the reproduction cost new. If you will refer to page 1 of plaintiff's Exhibit 1, you will find that I have made an allowance of 5% for engineering. City's Exhibit 2 shows that for the period January 1, 1920 to June 30, 1923, there was expended for

engineering $1,455,367, which is 4.3% of the construction
216 during that period. I have assumed that at least the engineering force the company now has would be required during the construction of this property. As a matter of fact, a large part of the engineering under operating conditions is charged to operation and not to construction. It would certainly make up that difference between 4.3 and 5% which I have used. The more I think of it, I think that figure is too low. I have used as high as 6% in other appraisals, and I think that 5% is a minimum.

Taking the next item, administrative and legal expenses, City's Exhibit 2 shows $178,899, or half of 1% of the construction shown in column G. As a matter of fact, in recent years the general expense is apportioned 94% for operation and 6% for construction. Certainly a large part of the present general and administrative staff of the company would be required during the construction period. The figures
217 I have given of 94% and 6% would indicate a very much higher percentage than the 2% I have included here. I think the 2% is a very moderate amount. There certainly would be some heavy expenses for legal matters in connection with the franchise and general expenses of administrative officers that would certainly pile up a figure greatly in excess of 2%.

Of course, in an operating plant interest during construction cannot be compared with what you would incur if you were building a plant new. Under operating conditions the plant as it is built is put into service immediately on completion. That is, if a pole line is completed it has interest charged against it at the rate of ½% per month until it is put in service, and that is the way all other interest charges are calculated in the operation of a property. It is obvious,
218 without great explanation, if you are rebuilding a plant new, that a greater period of time would elapse before any of the property could be put into service, and that accounts for the difference between my estimate of a fair, rea-

sonable percentage under new conditions as compared with operating conditions.

When I was engaged to make the appraisal in 1921, which appraisal was Exhibit 86 before the Illinois Commerce Commission, it was to check an appraisal that had been made by the engineers of the company, and the same general methods that were employed there have been employed in this appraisal. The present appraisal (plaintiff's Exhibit 1) is a complete new study based on the entire period from 1911 to
219 1923 completely, ignoring the intervening steps we considered in Exhibit 86.

Yesterday I testified that the difference between the 1921 appraisal, as shown in Exhibit 86, and the present appraisal was principally explained by the fact that in Exhibit 86 I had used specific estimates entirely in arriving at my factors, whereas in the present Exhibit 1 I had used specific and routine combined. I wish to correct that statement. The explanation is true with the exception of the item for con-
220 duit. I varied my procedure in the item of underground conduit in the present exhibit.

Re-cross Examination by Mr. Haight.

221 I applied my overhead costs to the item of land and buildings. Legal is one of the elements of the 2% overhead for administrative and legal. My figure would not be changed if there were no necessity for a franchise.

Re-cross Examination by Mr. Clausen.

The Illinois Bell Telephone Company is not now charging to operating expense any administration or legal expenses
222 which should be charged to construction. I made an appraisal July 31, 1921, also December 31, 1921. The trend of price levels in 1921 was downward, particularly the latter part of 1921.

224 (Plaintiff's Exhibit 1 offered and admitted.)

495 *Cross-Examination by Mr. Goldstein.*

My study of the valuation of plant and overheads, which I used to arrive at the figures presented to the court in this hearing, was made after my affidavit was filed in this court in connection with the preliminary injunction, and this study continued to about 1926, when it was completed.

496 For my labor index I used the gang formation as of June 30, 1923, and applied to that the weighted average wages for each year as computed from the payrolls at the end of each quarter. For the computation as of June 30, 1923, I made use of the same gang formation in the preceding years as for June 30, 1923.

Work done under specific estimates is that work the estimated cost of which is in excess of $2500. Other work is done under what we call blanket estimates, which are prepared at the beginning of each quarter and are designated as routine estimates, where in general the work will not exceed $2500.

497 Blanket estimates are made at the beginning of each quarter for the current work of the company. A specific estimate would apply to a large contemplated extension of plant which would be somewhat out of the ordinary construction program or the current program of the company.

In my affidavit filed in connection with the preliminary injunction I used the figure $140,058,956 as the reproduction cost new of the property as of June 30, 1923, used and useful, in the rendering of telephone service in the city of Chicago exclusive of working capital, materials and supplies, work in progress, and going value. For these same items I testified in this proceeding to a value of $145,248,344. The major difference between those two figures is that in the first figure of one hundred and forty million dollars I used an allowance of 12% for overheads as designated by the Commerce Commission. In my opinion that would not be an adequate

498 amount for the reproduction of the property. I use about 17%. Of course there is another difference there. The first figure of one hundred and forty million dollars con-

tains in the plant figures a certain amount of capitalized overheads, whereas my base figure in the later report does not contain these capitalized overheads.

By the term reproduction cost new in my testimony in this case I mean the figure derived by me by the process I described here of converting the book cost figures of each year under consideration to the price levels of a later date.

499 To arrive at the percentages of labor and material as shown in plaintiff's Exhibit 1, which were used in weighting out the material and labor cost ratios to arrive at ratios of construction cost, I followed the following procedure: The proportions of labor and material for each year for each class of plant were determined by combining the relative proportions of labor and material for specific and routine estimates on the basis of the relative quantity of expenditures made during each year for each class of estimates.

In my calculation submitted to the Illinois Commerce Commission, I used a construction period of nine years with a five year development period, while my calculations submitted here are predicated upon a nine year construction period with a six year development period. In my calculations submitted to the Illinois Commerce Commission and to this court I used the following number of stations cut into service during the development period:

500

	Court	Commission
Beginning of the fourth year.....	20,000	None
Beginning of the fifth year	85,000	42,200
Beginning of the sixth year	100,000	90,670
Beginning of the seventh year	105,000	95,046
Beginning of the eighth year	120,000	153,940
Beginning of the ninth year	120,000	149,522
During the ninth year	107,435	94,117
Total	657,435	605,495

501 *Re-direct Examination by Mr. Bangs.*

I was advised that after the preliminary injunction had been issued in this case the City of Chicago took an appeal from the preliminary injunction to the Supreme Court of the United States, and that it would not be necessary for me to complete my appraisal until that appeal had been determined; and that is the reason my appraisal was not completed until 1926. I was told to take my time; that the matter was subject to further decision, and that there was no present need for finishing it at that particular time. I
502 testified previously that I had made a calculation to determine the facts of the variations in gang formation and the variations in the kind of material that went in in any one year, and I testified previously that it affects the final answer less than half of one per cent. I do not mean by that answer that the method itself is that accurate. I mean that that factor affects the answer less than that much. It does not introduce any appreciable error. Those estimates as to nine years for construction and five for development
504 were calculations made to determine the going value of the property. There are always different ways of approaching that problem, and after further consideration of the particular problem I made the change to nine years for construction and six for development. It is just a different way of approaching the problem in order to determine a reasonable going value for the property. I don't know that there is any great difference between the two methods, because I used it for an evidence of going value. Anyway, it is not a thing that I base any final judgment on. I think the figures between a five year development period and a six year development period gave some differences. I don't recall what they were.

505 The change as to the number of stations cut into service during the development period was because it was just a different way of approaching the problem in order to determine a correct going value of the property. I think,

both in answer to the change in number of stations and the length of the development period, that my last assumption is probably more nearly in accordance with the conditions than would be experienced if the property were to be reproduced.

I think the real definition of reproduction cost new would be to rebuild the property under conditions that exist as of the date of the appraisal, June 30, 1923. Of course, what I have done is not strictly in accordance with that definition. I have tried to get at what the reproduction cost would
have been had the same conditions existed when the prop-
506 erty was built converted to the 1923 cost level. I think
if the cost of reproduction was determined actually as of June 30, 1923, the answer would have been considerably in excess of the figure that I had.

Re-cross Examination by Mr. Goldstein.

Possibly I testified before the Commission that twenty to twenty-five million dollars of construction a year would be the most economical way of reproducing this plant. I think our present plan goes up as high as thirty million dollars.

With regard to the test applied in determining the pos-
507 sible error of half of one per cent—instead of taking the
specified proportions of the plant as existed on June 30, 1923, it was possible for me to get the quantities that actually went in under specific estimates in each of the years. I priced them out as of the two dates and got a factor, and there was quite a divergence of different kinds of material which went in in any given year as compared with the average number at the end of the year. I don't know that the quantities I used were representative of the plant as a whole or representative of the class I was testing. My answer would be, assuming that
they were widely divergent from the average amount of
508 plant, yet it only introduced this small factor of error.
If they had been more typical in proportion to what went

in, the answer would have been slightly closer. They were typical in a way of the plant in my test, because in any particular group of plants the bulk of any plant is ordinarily the bulk of the plant that was constructed in any one year. However, there were certain types of plant that were quite widely divergent from the average amount of that kind of plant in the final figure in 1923, and yet even with that wide divergence it only gave this small factor of errors. We did the same
509 thing with the gang formations. The gangs were not the same in each year. We fortunately have the data in our office as to the number of foremen, the number of linemen, and the number of ground men in each year; so we introduced that factor, and that was also included in determining this error of half of one per cent.

Referring to my testimony before the Illinois Commerce Commission as follows: "Twenty to twenty-five million dollars a year is about the limit of the amount of construction that could properly be carried on in the city of Chicago. It is largely a question of overcoming physical obstacles. Of
510 course that rate of construction could not be maintained during the first three years—" when I made that statement I was looking at the economics of the whole proposition. The building of plant without putting it into service is one thing; the building of a portion of it and putting it into service and getting some revenue to my mind is a more economical method. That was what I had in mind. I don't know whether I am still of the same opinion. That was my opinion at that time. Perhaps I would modify it to some extent. I do not think I would diverge very widely from what I said. I don't know how much of a divergence there would be without giving it a little further consideration.

511 *Re-direct Examination by Mr. Bangs.*

I undoubtedly made the following statement before the Commission: "The first consideration in determining upon nine years as the proper period for the construction of this plant was the maximum amount of construction that could economically be carried on in one year. In my opinion twenty million dollars to twenty-five million dollars is about the limit of the amount of construction that can properly be carried on in the city of Chicago. It is largely a question of overcoming physical obstacles. Of course that rate of construction could not be maintained during the first three years." That was certainly my best judgment at that time.

512 I did not hear the cross-examination of Mr. Cleveland regarding the method of pricing re-used station apparatus. I am familiar in a general way with that question. If station apparatus had been used once and was put back into the plant at the current cost as of that date, the item was
513 only raised from the current cost level as of that date to the 1923 level. In arriving at the cost new of the apparatus, it does not make any difference as to whether I was pricing old apparatus or new apparatus to get it on the 1923 base, because assuming that it was put in in 1916 at the 1916 cost level, that is the way our index factor for that year would have been used.

Re-cross Examination by Mr. Haight.

I don't think it would make any difference in book costs.

949 "Mr. Goldstein: In connection with Mr. Sloan's testimony there were two items that were left open and we agreed that after we had determined the facts we might read them into the record. This is part of Mr. Sloan's testimony."

"The appraisal which I made for the company as of July 31, 1921, which was offered in evidence before the Illinois Commerce Commission as Exhibit 85, shows the reproduction

cost new of the company's property in Chicago, used and useful, as of that date, of $109,988,325, which appraisal did not include overheads other than those shown on the books as of that date, and is exclusive of land and buildings. More-
950 over, this appraisal included certain overheads shown in the Byllesby and Arnold appraisal of August 1, 1911.

"The appraisal shown on plaintiff's Exhibit 1 of the company's property in Chicago, used and useful, as of June 30, 1923, shows a reproduction cost new of $109,573,961. This appraisal includes the overheads shown on the company's books, but excludes the overheads contained in the Byllesby and Arnold appraisal, and is exclusive of land and buildings.

"The overheads and other deductions which were excluded from the Byllesby and Arnold appraisal amount to approximately $3,850,000 when converted to a June 30, 1923, cost level.

"The net additions to the company's property in Chicago, as shown by its books from July 31, 1921, to June 30, 1923, amounted in round figures to $18,500,000 exclusive of land and buildings.

"Although the method of appraisal used in Exhibit 1 was substantially the same as that used in the appraisal of July 31, 1921, there were various changes in methods, principally the inclusion of routine estimates in the preparation of the index factors and other minor matters pointed out in my testimony. I have endeavored to ascertain what part of the
951 difference between the two appraisals (disregarding the effect of net additions between the two dates) can be accounted for by the change in the level of prices between the two dates, and what portion was due to the change in methods in the two appraisals. To obtain an absolutely accurate answer would require a long detailed analysis of the two appraisals, but the question can be answered with reasonable accuracy. In my judgment of the total difference in the two appraisals, which amounted to a reduction of approximately fifteen million dollars, fourteen million dollars is the result of

the change of price levels between the two dates, and one million dollars is the result in the changes of method, as stated above. The result is that the method used in the second appraisal reduced the reproduction cost new of the property over the method which had been reached by the first appraisal by approximately one million dollars, or less than 1% of the total amount involved."

158 JOHN R. TURNER, having been first duly sworn as a witness on behalf of the plaintiff, testified:

Direct Examination by Mr. Bangs.

My name is John R. Turner, and I reside at Glen Ellyn, Illinois. My present occupation is inventory and cost engineer for the Illinois Bell Telephone Company. I have been employed for over twenty years by telephone companies. Approximately the first three years was with the Chesapeake and Potomac Telephone Company at Washington, and some experience in Maryland, and in the New York and New Jersey Telephone Company in Brooklyn, New York. For these
159 two companies I was engaged in the installation and maintenance of central office equipment and sub-station equipment, including private branch exchanges. I was also in the experimental laboratory of the Chesapeake and Potomac Telephone Company for about eight months, engaged in various experiments in telephone research work. I entered the employ of the Chicago Telephone Company, now the Illinois Bell Telephone Company, on February 5, 1912. I started in on the outside plant engineering work, engineering of poles, cables, conduits, etc., as an engineer. As I recall I became central division plant engineer in 1916, just a very short time before I entered the
160 army. The nature of my service in the army had very much to do with telephone work. I was a major in the signal corps of the army and in command of a telegraph battalion. Our work in this country and in France was to

take care of active army operations including all types of warfare, trench and behind the lines activities. In addition to considerable training in that line, we engaged in the training of both men and cadet officers. We also constructed permanent lines along the Mexican border between Del Rio and Eagle Pass, and in France we constructed a great many miles of permanent lines; that is, permanent types of construction including certain equipment installed at Brest and Lorient, and other cities in France. We covered a pretty broad field over there of inside and outside telephone plant.

161 As inventory and cost engineer it has been part of my duties to inventory and appraise quite a number of properties in Illinois and adjacent states. In that connection, of course, I have had to familiarize myself with costs prevailing in these various sections. Further, I have analyzed costs for the purpose of making comparative engineering cost studies and various other purposes, such as estimating costs, that the engineers use in connection with their estimates of construction projects. I have been engaged in that type of work continuously since I entered the engineering department of the central group of Bell Companies on February 5, 1919, immediately after being discharged from the army. I am the man in the company who is supposed to have the widest information as to the cost of labor and material entering into construction. I believe there are others that are engaged in some analyses of that type, but I guess I am the one that is supposed to dig it out for the company as a whole.

162 I made an appraisal of the property of plaintiff, used and useful, in rendering service in the City of Chicago in case No. 11894 before the Illinois Commerce Commission. That appraisal is based upon a prior appraisal. The appraisal that I made as of December 31, 1921, was based on an appraisal made as of July 31, 1919, which was presented to the former Commission in case 9291; that is, the Public Utilities Commission of Illinois. The method used in both of those appraisals was very similar to what Mr. Sloan has

been describing in connection with his appraisal. The 1919 appraisal was based on the Byllesby & Arnold appraisal and brought down to the cost level of 1919 in a manner similar to that described by Mr. Sloan. The 1921 appraisal was in turn based on the 1919 by bringing that appraisal and the subsequent net additions to the cost level of December 31, 1921.

163 The Commission in its order of December 20, 1920, in case 9291 used the exact reproduction costs that were found by the Chicago Telephone Company's witnesses, a part of which was the appraisal that I referred to. The land and buildings were appraised by real estate experts. The plant other than that was appraised by Mr. Rhodes, our former chief engineer, whom I assisted in that respect. The general equipment went in at book cost, and construction work in progress was also included in that amount. The total of those amounts given by witnesses for the company was $96,178,133, and that is exactly what the Commission found as of July 31, 1919, to be the reproduction cost new.

164 The date of the appraisal in case No. 11894 was December 31, 1921. If you take the sum of the reproduction cost found by the company's witnesses, excluding the hundreds; that is, to nearest thousands, and add to that the 12 per cent allowance made by the Illinois Commerce Commission for omission of overheads in the appraisement, you get exactly the same amount found as reproduction cost new by the Commission as that offered by the witnesses for the company, with this exception: that the reproduction cost found by the witnesses for the company was as of December 31, 1921, and the Commission, evidently in error, stated that reproduction cost new as of December 31, 1922. I say "evidently in error," because they used exactly the same amount as the witnesses had presented, and it was the only evidence that I know of presenting reproduction costs as of December 31, 1921. The Commission stated that was the reproduction cost new as of December 31, 1922. The total reproduction

165 cost as of December 31, 1921, as found by the witnesses for the telephone company was $114,973,457. Adding 12

per cent overhead, which was allowed by the Commission, as stated in their final order, that would amount to $13,796,814, a total including overheads of $128,770,271. If we take these totals disregarding the hundreds, using three ciphers in place of the actual hundreds, we have a total offered by the witnesses as reproduction cost new on December 31, 1921, of $114,973,000. Adding the 12 per cent allowance of the Commission for overheads, without the hundreds, we have $13,796,000, or a total of $128,769,000, which is the reproduction cost new as of December 31, 1921, and it is the exact amount stated as reproduction cost new by the Commission as of December 31, 1922.

I testified as to the largest part of the reproduction
166 cost new. There was no testimony introduced in that case by me or, to my knowledge, by anyone else connected with the company, or any other witness, as to the reproduction cost new of the property on December 31, 1922.

I have looked into the appraisal made by Mr. Sloan, introduced here as Plaintiff's Exhibit 1, rather carefully. I helped him gain access to the records of the company. He came to me for information as to where he might find certain data, and I directed him to the right parties. In that respect I assisted him. I had nothing whatever to do with his computations. I would say that his appraisal is made by substantially the same method as the appraisal introduced in evidence before the Public Utilities Commission of Illinois, and the appraisal introduced in evidence before the Illinois Commerce Commission, as to which I have just testified.

167 I have an opinion as to the increase on a percentage basis of the cost of reproducing the physical property of the plaintiff in the City of Chicago, used and useful, on June 30, 1923, as compared with the cost of the property as shown by the company's books and records. I think the cost of reproducing the property on that basis would be at least 30 per cent greater than the books. Dealing with the composite telephone property in the City of Chicago, that is, disregarding the variation of increase and decrease on separate classes

of property, the composite telephone property in Chicago remained at approximately the same cost throughout the years of 1924 and 1925 as prevailed on June 30, 1923.

168 Q. "What was the course of prices, trend of prices of labor and material after December 31, 1925, as to the same property?"

Mr. Haight: That is objected to on the ground that it is immaterial and for reasons given in the City's opening statement.

Objection overruled.

The information that I have here is based on the average costs for each year. When I speak of 1924 and 1925 remaining at the same level I am speaking of the average costs
169 throughout those years. Since 1925 there has been a decline in costs. I am speaking of complete costs in place. The decline was gradual and constant, and on January 1, 1929, the cost level was approximately 12 per cent lower than on June 30, 1923 or 1924 or 1925, which were the same. Of course I can't give you very accurate information on composite costs more recently than January 1st. It is rather an involved matter to study, but I do know this: that we have had a decrease in our station apparatus and private branch exchanges of about 3 per cent since the first of the year, but we have had an increase in our cable costs, due to the copper market, I think, pretty much, that has in my judgment caused an increase in the cost trend for the composite plant. In other words, the increase in cost of cable, which is a very large investment in Chicago, has more than offset the decline in the price of apparatus.

Q. "Have you an opinion as to the comparison between cost of reproduction new during the period from June 30, 1923, up to and including December 31, 1928, as compared with the cost of the property as shown by the books of the company."

170 Mr. Haight: Objected to, and may this stand as to this entire line of testimony?

The Court: It may.

I can say in general that the reproduction cost has been more than the books throughout that period. I am very familiar with the company property, and I know the type of property that would be considered non-useful. Excluding land and buildings, I would say there is no non-useful property on the books as of June 30, 1923. That is, all of the property
171 on the books was used and useful with the exception of land and buildings, which I am not sure of. That is principally where we would have non-useful property, if we had any.

173 *Cross-Examination by Mr. Haight.*

One of the principal duties that I have to care for is the inventorying and appraising of properties in connection with rate case investigations and rate cases such as this. In that connection I have charge of the actual inventorying of the properties, where inventories are necessary, and the determination of the proper costs used in these appraisals.
174 In addition to that, I have various cost analyses to make in connection with estimating work in connection with the determination of retirement unit costs for retirement of investment from the company's books, determination of insurance values and costs studies of various kinds, information regarding annual charges to be used in engineering economic studies, and a number of other things of possibly less importance. I come very extensively in contact with the physical plant. It comes about through two processes. One (I am speaking now of my present position) is in connection with the inventorying of properties, and also the determination of the physical condition of properties. That necessarily brings me in very close contact with telephone property. I have not made an inventory of the property here in question.

175 By the phrase "used and useful" in reference to the physical properties on the company's books as of June 30, 1923, I mean that they are either in actual operation in

service or being held for service. I purposely excluded land and buildings. I took into consideration that large and important extensions are made, completed and charged to plant account in advance of the time when they can be finally placed at the service of subscribers. I considered that all property that is in process of construction is either used or useful.

176 It is possible that some that I considered was completed and charged to plant account before the time of its actual use by subscribers. As I understand the accounting process, property is not transferred from construction work in progress to plant in service until it is placed in operation. There is an exception to that in the case of land and buildings, as I understand accounting, and these land and buildings are transferred to plant in service when the building is ready to install the equipment. In that case you might say the land and buildings would be considered plant in service before the equipment is actually in operation. I considered work in process of construction as used and useful.

177 I am familiar to some extent with the type of conduit known as paper conduit manufactured by the American Conduit Company. I know there is some of it in the plant. I think the company installed it quite a while ago. I think there is some of it now in use. I don't know how much was originally installed. We have a complete record of our underground conduit. I think the amount of it can be determined. I don't know how much trouble it would be; probably would have to go through our entire records to find it. I think

178 a very small amount, relatively speaking, of that paper conduit was in use June 30, 1923. I understand that conduit has caused some trouble. I believe there was difficulty in pulling cable out of it. I understand we had some trouble with paper conduit—I don't know how much. You can't

179 tell whether the cable stuck in it until you try to pull it out. I understood there was some cable they could not pull out. Relatively speaking, I think it was a very small amount. If the cable and conduit are abandoned, I would consider it non-useful. If there is any part of the property that

could be used, I would consider it useful conduit. If
180 any duct in the conduit was abandoned, I would consider it non-useful. I don't want to be misunderstood on that, because if I was appraising that property I would consider the cost of the complete conduit, but I would eliminate the non-useful portion of it in determining the condition of the property. I didn't take any steps to determine whether any of the underground conduit and appliances, either ducts or manholes, were not used or useful. I think there have been some instances where underground laterals and the cable have been abandoned because of extensions of underground cable making it of no further use. I don't think we are in-
181 terested in how much of that there was as of June 30, 1923. If we abandon conduit we write it off the books and retire it. I know that all abandoned conduit, abandoned manholes, and abandoned laterals are supposed to be written off the books. I couldn't say that there were manholes once in use that are abandoned. We very frequently, I think, fill up manholes and repave. I can only say I haven't charge of the accounts. I understand the accounting rule well enough to know they should be written off, and were written off
182 if the accountants did their job properly. I think that without knowledge of whether they were written off or not, and without knowledge of the physical facts, one can give an opinion as to what property is used or useful. I think I can state, with my knowledge of the Chicago property, that any property you are thinking of in the terms you have just expressed would be negligible. I couldn't tell you of any location exactly of underground cable where the cable has become stuck in conduits and cannot be removed.

During the years we have been speaking of there have
183 been changes in the method of loading the underground cable. Loading of underground cable is introducing a type of loading coil that offers certain efficient means of transmission on the circuits. There have been changes in respect to the intervals where the Pupin coils have been used. It has been the practice to install these Pupin coils in specially constructed

manholes and ordinary types of manholes. The specially constructed manhole is because of the large number of loading coils required at that location. I don't think you can abandon manholes on the basis that the spacing of these loading coils are changed, that is the intervals are different. We have splices in those manholes that have got to be accessible,
184 and if we re-arrange our loading coils we cannot re-arrange our manholes along with them. With reference to whether abandoned manholes may still be carried on the books, I could not tell you definitely what errors, if any, the accountants have made in that respect. I can only say they are supposed to be written off the books if they are actually abandoned. That is an accounting matter, and I imagine someone in the accounting department will have to answer. It is possible that where such a manhole would be no longer useful as a loading manhole, it would be useful as an ordinary manhole; but I don't know of any such condition. Where we have these large expensive loading manholes, I don't know of any that have been abandoned as loading manholes.

I know that some years ago the plaintiff acquired the conduit of the Illinois Tunnel Company. I couldn't answer as
185 to the magnitude of paralleling conduits of that company with the conduits of the Chicago Telephone Company. If those conduits are of any further use in the view of the engineers, then they would not and should not be written
186 off. They are useful in that sense. I took the question of duplication of conduit into consideration in this sense. I know the accounting rules in regard to these things, and if parallel conduit was of no further use to the company, I know that we, as a matter of accounting principles and rules, write such conduit off our books. I cannot say that such cases were actually written off, but I assume they were. I am basing my statements on the accounting rules. The plant engineers, that is, the engineers who handle the outside plant construction, should determine whether it should be written off or not.
187 I believe the plaintiff, when it acquired the tunnel property, also acquired the right to install cables in the tun-

nel company's tunnel; but I couldn't say that definitely. I know that the plaintiff has some cables or had some cables
188 in the tunnels of the Illinois Tunnel Company. I do not know that the plaintiff has removed the cables that at one time were placed by this other company in the tunnels. I don't know that the plaintiff acquired a lot of building cable belonging to the Illinois Tunnel Company in the purchase of that property. I couldn't say that the building cables are duplicated. That sounds very unusual. It is possible that the Rookery office building has in it some of these old cables as well as the cables of the plaintiff company. I don't be-
189 lieve that the same condition is possible in respect to building cable in many other buildings in Chicago. I think that a great many of our older cables have been replaced by larger cables. We have had very large retirements of our building cable plant, and we have had enormous additions to our building cable plant, and I would say that any such condition that you are speaking of is a very negligible part of the building cable account.

190 I have made quite a few appraisals. In my appraisal of the Chicago property I have used substantially the same method that was employed by Mr. Sloan. When I say substantially I reserve some difference. Mr. Sloan made some changes in the method that I had used. I think he made several improvements in it. One of the things he did was to take a very much larger and possibly more representative cross-section of the materials in each account to establish material cost factors. He eliminated the overhead from the Byllesby & Arnold appraisal. We did not. We included the overhead in our appraisal, with the exception of brokerage and interest. We worked on a little different theory. We were trying to include overhead in the base appraisal that would be somewhat more consistent with the fact that overhead would appear in the additions; but Mr. Sloan elim-
191 inated all overhead in order to get at a cost exclusive of overhead. There were just a few minor changes like that, and I think there is somewhat more accuracy in his appraisal.

I think he had more time in this case than I had at that time. I don't know that it would result in a very great difference as to results. What I was trying to do was to get what you might call a reproduction cost under the conditions as of the date that I was making my appraisal. Substantially what we did was to find the reproduction cost of the property under
the identical conditions under which it was built, but
192 allowing for different price levels.

If I had had an inventory of the property as of June 30, 1923, then available I think I would use it, for the reason that it was a more customary procedure and would probably not receive so much criticism. I am not sure that it would be a better proceeding than this method of adjusting book costs in the City of Chicago. I am inclined to think that we could get at least as accurate results, and perhaps more accurate, by the method that we have already followed in this case, for this reason, that it is a very difficult thing to get costs in all representative parts of Chicago of a very recent date. It is part of my job here to be able to tell engineers about what it costs in the Loop district for conduit work, and we have all kinds of conditions there. Some of our conduit is
eight feet below the surface, and some of it is twenty feet
193 below the surface, and to get representative unit costs
that would furnish a typical case of the entire situation here in the City of Chicago, ranging from the very costly in the Loop to the less costly work in the outskirts, would be a rather difficult thing to do; whereas this method takes conditions as they actually occurred and merely puts them on a price level of the more recent date, reflecting actual conditions of an easier character. In fact, as far as conduit is concerned, I think his method is extremely conservative. Of course the thing that actuated us in this particular case was that it is something of a job to take an inventory. We were trying to save the extreme cost of this type of work. It had been customary before we started this method, to do the other thing that you were talking about—inventory unit cost method. There are two factors to be considered—one was the time that

we had, and the other was the relative cost of the two
194 methods. In my judgment the inventory appraisal in
Chicago would probably cost ten times as much as this method. As to which method I would prefer if the costs were identical, I would have to answer with certain reservations. I believe in some accounts I would rather have the inventory method. In some of the accounts, possibly the pole line accounts or some simple accounts of that kind. In others, I think this method would probably produce better, fairer, and perhaps more conservative results. It is pretty hard to say whether I would prefer our present method in all of the other accounts save those I have just mentioned. It involves some little thought about the operations required, a study of
our analyses of unit costs. Personally I think either
195 method ought to give you a very correct answer. Assuming, of course, that the books are properly kept. That is a necessary basis for this type of appraisal.

What I had in mind with respect to the inventory method was the possible difficulties of determining representative unit costs for a city such as Chicago. That is a simple proposition in some of the smaller companies and exchanges of
196 the Illinois Bell outside of Chicago. I don't think the
engineers have similar difficulties in determining proper retirement unit costs. The engineer might err in getting the company's average unit cost for conduit in the City of Chicago, but the process that he uses of increasing all of those relatively correct unit costs, increasing or decreasing them to represent the book level will correct his error in that respect, so that the unit costs that he finally decides on to retire the conduit will, if multiplied by the quantity of that conduit, exactly equal the book cost.

We have a running inventory of our conduits that is
197 maintained by the plant accountants. I have never heard
of a case where a conduit no longer used has not been retired from the books. I testified yesterday that the cost of reproducing the physical property of the Illinois Bell Telephone Company in the City of Chicago on June 30, 1923, would

have been at least 30 per cent greater than the cost of such property as shown by the books and records of the company. I meant that the reproduction cost new on June 30, 1923, would be at least 30 per cent higher than the book cost of the property on the same date. I didn't mean at all that the price level on June 30, 1923, was 30 per cent higher than the weighted average price level during each year beginning August 1, 1911. I was speaking of the increase in the reproduction cost new over the book cost—the cost as shown by the company's books for the physical property. I based that

199 on Mr. Sloan's appraisal. I didn't want to put myself in the position of stating that Mr. Sloan's appraisal in its total form was correct, but I did this: I took Mr. Sloan's appraisal as shown on page 2 of Petitioner's Exhibit 1, the first column of figures, which included the capitalized overhead, added to that land and buildings, and then added the 12 per cent allowance of the Illinois Commerce Commission, and I concluded that that would, in my judgment, represent the minimum of reproduction cost new. Then I took the company's book cost, and in order to make the two things comparable, I added the 12 per cent allowance for overheads to that. The result was the first figure was 30 per cent higher than the latter figure. I found out since that we were somewhat mistaken about the Commission having allowed 12 per cent for overhead on the book cost. They allowed five million dollars on the book cost, which would merely increase the percentage of 30 per cent that I used. Mr. Sloan's appraisal is actually in the neighborhood of 45 per cent higher than the book costs as they were shown on June 30, 1923. All I stated was that it was not less than 30 per cent, and I believe that very firmly.

200 Mr. Sloan's estimate of reproduction cost of $145,-248,344 is about 52% above the book cost of $95,000,000. My estimate is not tied down to 30%. I just said it was at least 30% higher, and didn't say how much higher. I do not pretend to come in here with a superficial examination of Mr.

Sloan's appraisal and say that it is exactly right to the
201 dollar. I believe it is. I didn't go through a calculation year by year, taking the price levels and using a weighting factor and arrive at a final conclusion as of June 30, 1923; but from my knowledge of the company and its book costs and how the accounting is cared for, I am convinced that any fair reproduction cost new that you could possibly find for the physical property as of June 30, 1923, would be in excess of 30% over the original costs as shown by the books of the company.

I didn't make any special study of the books reflecting the property at June 30, 1923, to determine what was used and useful. I was just speaking from my knowledge of the property. Before the war I had a great deal to do with the Chicago plant, and I was relying pretty much upon my knowledge of the useful property that we had at that time. I don't see any particular reason why the company should have changed its policy, and don't know of any change in pol-
202 icy. I don't see how the engineers could be mistaken in writing out or retiring abandoned plant. I can't say positively that there was no non-useful property on June 30, 1923, but I can state from my knowledge of the property that it would have been exceedingly small, if any. I do not know of any nine year period during which the prices were constant.

1850 By stipulation the following letter written by Mr. Turner, regarding certain questions which he was unable to answer specifically on his cross examination, was introduced:

1. The amount of paper duct purchased from the American Conduit Company and installed in Chicago approximated 990,000 duct feet out of a total for all kinds of conduit of
1851 approximately 24,000,000 duct feet as of June 30, 1923.

2. Careful examination of the records indicates that all conduit runs containing paper ducts were actually in use on June 30, 1923; that is, all such conduit runs including one or more working cables. From an inspection of the records I

estimate that approximately 70% of the paper duct mileage contained working cables. Some part of the balance of 30% is broken down, but we have no record of the exact amount. This has no bearing, however, on the usefulness of the conduit, as the unit of conduit is the total number of ducts contained in one trench, and unless all such ducts are nonuseful, the conduit run is a useful unit of property and the non-usefulness of any individual duct should, therefore, be considered only in the conditioning of the physical property.

3. The amount of dead cable stuck in ducts which cannot be removed amounted to 2198 feet on June 30, 1923, in a total of approximately 12,000,000 feet of cable. The relation would be still smaller in the investment, as the cable that cannot be removed is of smaller size than the average cable in use.

4. Regarding the location of dead cable stuck in ducts, I have a complete description of all such locations.

1852 5. There is no record of any abandoned loading manholes. The records show that approximately 15 loading manholes; that is, special manholes built for loading purposes, will no longer be used for loading purposes, but are required indefinitely for splicing. The total manholes in Chicago at the end of 1922 approximated 9700. I have a memorandum which identifies the 15 loading manholes in question as to location, etc.

6. There was no conduit formerly owned by the Illinois Tunnel Company on the books of the Illinois Bell Telephone Company on June 30, 1923. The Illinois Bell Telephone Company purchased certain conduits formerly owned by the Illinois Tunnel Company at a price of $55,246.18. This exact amount was displaced from the capital accounts on August 21, 1920, at which time the conduit in question was sold to the Western Union Telegraph Company at an amount in excess of $55,246.18.

7. This company did not purchase any cables in the tunnels of the Illinois Tunnel Company nor did we acquire rights to place our cables in the tunnels.

8. The Illinois Bell Telephone Company purchased only
that building cable formerly owned by the Illinois Tunnel
Company which our engineers considered useful.
1853 In this connection the bill of sale shows definitely what buildings contained such cable, and the Rookery Building is not included in the list. The entire building cable formerly owned by the Illinois Tunnel Company was purchased for $10,322, whereas the building cable investment on the books of the Illinois Bell Telephone Company on June 30, 1923, amounted to $2,317,411. While it is impractical for me to examine every individual building cable involved in this purchase, I have been informed by the Building Engineers that all cable represented by the purchase price was either placed in service by connecting such cable to our own or by running cross-connecting jumpers between our terminals and those formerly owned by the Illinois Tunnel Company, or that cables were removed or abandoned. In order to check this statement I have examined estimates covering the cable activities in certain of the buildings which represented a very large part of the cable purchased, and find that in so far as my examination permits the statement of the Building Engineers is correct. The estimates that I actually examined covered the cabling of the Railway Exchange Building, McCormick Building, and the Union Trust Building.

9. In testifying that the reproduction cost on June 30,
1854 1923, was at least 30% greater than the book cost, some
confusion has been created, due to the use of the term—"Book Costs." The excess of 30% referred to the book cost with an inclusion of 12% for omitted overheads which we thought was the amount allowed by the Illinois Commerce Commission. We actually found that they had allowed a flat sum of $5,000,000. Therefore, Mr. Haight's comparison showing that Mr. Sloan's Reproduction Cost New was 52% in excess of the books with my statement of at least 30% is not a true comparison and probably should be corrected. The

exact figures supporting my statement are shown in the following table:

	Reproduction Cost New June 30, 1923	Book Cost June 30, 1923
Plant excluding Land and Buildings, Plaintiffs Exhibit #1, Page 2	$109,573,961	
Land and Buildings, Plaintiff's Exhibit #1, Page 1	15,472,752	
General Equipment, Plaintiff's Exhibit #1, Page 1	1,387,375	
Total excluding Omitted Overheads	$126,434,088	$ 95,626,014
12% Allowance for Overheads (Ill. C. C. Final Order Aug. 16, 1923)	15,172,091	11,475,122
Total physical property..	$141,606,179	$107,101,136

1855 Excess of Reproduction Cost new:

Over Book Cost including 12% Overheads.....32%

Over Book Cost including $5,000,000 Overheads.....41%

Over Actual Book Cost.....48%

*Excludes Construction Work in progress.

The testimony should be as follows:

The use of the Commission's allowance of 12% for omitted overheads applied to Mr. Sloan's appraisal of the physical property on June 30, 1923, including capitalized overheads, which amounted to $141,606,179 exceeds the book costs including 12% allowance for overheads by 32% and exceeds the book costs including an allowance of $5,000,000 for overheads by 41%, and exceeds the actual book costs without any allowance for uncapitalized overheads by 48%.

10. It is my understanding that Mr. Haight agreed to have the Accounting Witness furnish the information regarding the retirement of the equipment from central office under Estimate No. 19213.

1856 *Cross-Examination by Mr. Haight Resumed.*

In paragraph 2 of the foregoing letter I state that approximately 70% of the duct mileage of the paper conduit purchased from the American Conduit Company contained working cables in 1923, and that some part of the balance of 30% was broken down, but that I had no record of the exact amount. The fact that 70% of the duct feet contained working cables does not prove that this conduit has not broken down, but merely proves that the ducts containing working cables were necessarily used and useful in 1923. I learn that the conduit has broken down either when I attempt to pull a cable into the duct or pull it out. I could not know that the 70% of the ducts occupied by cables have not broken down because I have not attempted to pull out these cables; but in view of the relatively small amount of cable which we have been unable to remove from paper ducts my opinion is that
the broken down paper ducts constitute a small portion
1857 of the total.

In paragraph 3 of the letter I state that 2,198 feet of underground cable on June 30, 1923, was stuck in the ducts and could not be removed. The cable that is left in ducts may prove a gain rather than a loss. Some of the cable that is stuck in ducts is 25-pair cable, and it is probable that the cost of removing this small cable would exceed the gross salvage obtained through its junk value. In that case the abandonment of the cable would actually be a gain. There is a small amount of larger size cable stuck in the duct which would produce a gross salvage in excess of the cost of removal. In this case the company would sustain a loss, represented by the net salvage obtainable upon recovery of the cable. The duct in which the cable lies is a total loss.

On June 30, 1923, there was approximately 700,000 feet
1858 of working underground cable in ducts located in paper
conduit. Practically all of the 2,198 feet of cable stuck in the ducts is located in paper conduit. There may have been a few hundred feet of this cable stuck in ducts other than of paper construction. I don't know whether any of the 700,000 feet of underground cable in paper conduit can be pulled out of the ducts. This cannot positively be ascertained until the attempt is made to pull the cable out. You could not know this until you had tried to pull the cable out.

Based on our past experience, I am of the opinion that the
portion of working cable in 1923 located in paper ducts
1859 that we cannot remove will be very small. There is a possibility that a larger portion of the cable in paper ducts will not be removable if the cables are retained in such ducts for a great many years in the future.

All cable work in ducts is of value only so long as it is in use. When such a cable goes bad and has to be removed, both the ducts and the cable become valueless if the cable is stuck and cannot be pulled out, unless the nature of the trouble is such that the conduit can economically be repaired, thus releasing the cable and restoring the duct to further use.

I did not understand from Mr. Rhodes' testimony that he considered 20% of the paper duct as having actually collapsed. My understanding is that his conditioning allowed for the
fact that some portion of the paper duct had actually
1860 collapsed and that the balance was in a state of deterioration which would not necessarily render the ducts useless. I have in mind a cause similar to that of conditioning a pole in which it is found that a certain amount of deterioration is observed although the pole is 100% useful from an operating viewpoint. In my judgment, the condition of the conduit would not affect the condition of working cables except as to the ultimate salvage that may be lost due to our inability to remove such cables when removal is required from causes peculiar to the cable alone.

In paragraph 5 of my letter I refer to fifteen loading manholes that had been abandoned as loading manholes and are now used only for splicing. It is true that manholes built specially for loading purposes are much larger than is required for splicing purposes. That is true as to the fifteen
loading manholes referred to. Due to the flexibility of
1861 loading trunk cables where so many alternative routes
are available, it is probable that the majority of these fifteen manholes will again be used for loading purposes. In the event that these manholes are never used in the future for loading purposes, some part of the value of these manholes will necessarily be lost.

Referring to paragraph 8 of the letter, the Chicago company purchased the building cable formerly owned by the Illinois Tunnel Company from the American Telephone and Telegraph Company.

229 S. A. RHODES, having been first duly sworn as a witness on behalf of the plaintiff, testified:

Direct Examination by Mr. Bangs.

My name is S. A. Rhodes, and I reside at River Forest, Illinois. I was first employed by the telephone company in 1893. For about the first five years I was on construction work, inspection in connection with construction work. Then I was placed in the engineering department and worked on fundamental plans, general plans for conduit, central office construction. Later I was on work of engineering for materials of construction, followed later by transmission work. I was then transmission engineer. Finally I became chief engineer in charge of engineering work, and now I am
engineer on general requirements of construction ma-
230 terials. I became familiar with all parts of the plant
construction equipment. The engineering department make all plans for construction, and in general inspects the construction work as performed. Through my contact in that

way I was in the field through all my experience, at times on inspection of the construction work. I also was familiar with the planning, knew the general principles which were followed in that planning, the introduction of equipment as it came along, new designs, new styles, new standards, and in general was familiar with the whole plant through those channels. I have made special inspections of the property of the plaintiff in the City of Chicago for the purpose of observing the condition of that property. I made an in-
231 spection in the fall or early winter of 1921 and 2; that is, December and January—about that period; and again I went over, more or less, the same ground in the summer of 1923. I inspected representative parts of all classes of plant in service to determine the condition of that plant. I inspected buildings and physical property of all types. I inspected the property on my examination during the summer of 1923 to determine the existing depreciation, and also to determine any obsolescence or inadequacy, if any. As the result of this inspection I arrived at an opinion as to the
232 condition of the property. Speaking as of June 30, 1923, my opinion is that the plant excluding the land, which I presume is permanent, taking the plant in service, I found that the condition was at least 90% perfect, and the general equipment was in at least 80% condition; meaning by general equipment, garage, motor vehicle equipment, office furniture and fixtures, and tools. I heard the testimony yesterday afternoon as to some paper conduit manufactured by some paper conduit company, the American Conduit Company. I considered the paper conduit in arriving at a percentage condition on the conduit as a whole. I found for exchange underground conduit a condition of 95.4%, which in general would be called low for a plant of the character we have in
233 Chicago, and that is explained by the fact that about the year 1901 and 1902 we put in quite a lot of this paper conduit—about one hundred and ninety duct miles, in the plant, out of a total of some six thousand miles altogether. So it was really a small part of the whole plant, yet we put

in quite an amount at that time, and for many years it has been in obsolete form, not used any longer. We do have some trouble with it, so I gave it a pretty low condition in charging up the whole conduit. I have lost my working sheets that I had in connection with making this inspection, but have
234 the summary sheet. (Plaintiff's Exhibit 2 marked for identification.) The document marked for identification, Plaintiff's Exhibit 2, is the original summary sheet showing the result of my inspection of the property on June 30, 1923. I considered the paper conduit obsolete,, although it is in use. My treatment of it was largely because of obsolescence rather than complete failure to give service, because a large part of it is in use and giving satisfactory service; but we do have some trouble with it. I gave it only a 20% condition.

379 *Cross-Examination by Mr. Haight.*

The working papers in the matter about which I testified were in the files of the company. They have not been found. The only thing I have now remaining is this summary that appears in Plaintiff's Exhibit 2.

380 The papers that cannot be found were my notes on the condition in which I found the many hundreds of items which I looked at and which I assembled and put together to total the general average condition for each account. They were in bound books, about three or four in number and about 5x8 in size. Each one was about 25 or 50 pages. These notes refer to the examination I made as of June 30, 1923, and in 1921.

381 They contained no separate notes for anything in addition to those two examinations. I last saw the books shortly after the closing up of the hearing, early in 1924. I then sent them to the files.

In coming to my conclusions as to the percent condition of the property, I took into consideration obsolescence, inadequacy, public requirements, wear and tear and casualty. There was no sleet storm. I did not allow for a steam roller

running over and breaking a conduit, if it had not occurred.

382 I inspected the property, and where I found injury, I made a deduction for that. I gave the paper pipe conduit purchased from the American Conduit Company a condition of 20 per cent because I considered it obsolete. This conduit went in in the years 1901 and 1902, so, roughly, it had been in service about 20 years. I did not attempt to predict its future life. I gave the percent condition on the basis of its present physical condition.

By percent condition I mean the condition as determined by the evidence of rust, decay, wear or any action of the 383 elements which deteriorate a piece of property.

I do not mean the percent of its remaining life when I use the term "percent condition." By "percent condition" I mean an expression which if below 100 per cent, by say, 10 per cent, gives it a condition of 90 per cent net. I mean by that 10 per cent deduction from 100 per cent, a measure of the physical deterioration such as rust or rot, or rot of a pole, or wear of the surface because of use. If 10 per cent of the permissible total wear has occurred, on a switchboard jack, say, I would then call that jack in 90 per cent condition. If 10 per cent of the total wear that is permissible, up to the time it must be thrown out of service, because of wear, then I would give that item a 90 per cent condition.

384 I am talking about a jack, and that is a part of the mechanism in a switchboard that has an opening into which you put your plug. It is put in and taken out and there is friction. On that particular feature, if it is worn 10 per cent of the way to that final condition where it is no longer suitable for use, that jack is in 90 per cent condition. Of course, there might be some other things connected with it. There might be other elements that wear slower in the same item, and all of these elements should be taken into account in sizing up the general condition of a particular unit.

385 In regard to this paper conduit which has been in about 20 years, and is in about 20 per cent condition, I could not arrive at any conclusion as to whether it has five years more to go. I would not attempt, and did not attempt, under those circumstances, to predict the future life of any of these items of plant.

386 When I speak of per cent condition of property, I do not have in mind the remaining life. I have its remaining life as measured by the amount of decay, rust, wear, or other similar factors which may still be permitted before the item must be thrown out because of those actions of the elements.

I inspected the jack I spoke of a moment ago with a gauge, and by that gauge determined whether it has a dimension which is still on the right side of the allowable dimension beyond which we would throw it out of service; that is, the wear must not have exceeded a certain amount. So long as it has not exceeded that amount, we would continue to use the jack.

387 I make a distinction in putting my per cent condition on a jack that may wear to a point where it would still be useful for five years, and a jack which may wear to a point where it would still be useful for only one year, because one would show more wear than the other, and I would rate the second one lower than the first one. I would rate the jack in the same way described a while ago, by actual physical measurement of the wear that has occurred.

Your assumption as to a jack that has been in use five years and worn to a point halfway to the wear that is allowable

388 —I didn't have all those facts, and it was not necessary for me to have them in making my inspection as I made it. I did not ascertain the age of every item or any item I looked at, when I made the inspection, so I could not predict any future life.

I did not, in respect to any of these items of property, take into account their probable future utility. If I found them

useful in the plant at the time of my inspection, I rated them on a normal inspection which I would make for wear and decay and other elements of that kind, and that only.

About 190 duct miles out of some 4500 duct miles was reflected by the paper conduit.

In speaking of paper conduit, I have taken all of the conduit of that general type into consideration, including the Orangeburg paper conduit, as well as the American Conduit Company's conduit.

389 As to the division between Orangeburg and American Conduit Company paper pipe, I believe it is practically 98 per cent of the American Conduit type.

I gave a figure of per cent condition. There is no matter of cost involved in giving that figure. You asked me how much fibre conduit there was in the plant. I said there was 190 duct miles of fibre conduit as against 4500 miles in total. That is on a physical quantity basis, not dollars. It is upon the lineal foot basis.

390 In the case of fibre conduit, I had to know the total dollars in that kind of conduit and apply my percentage condition to those dollars to get the composite for conduit as a whole. I had to use dollars in that sense. I got the figures from the books of the company. In my reproduction sheet I had to bring those dollars down to the reproduction cost. I got my figures on reproduction cost from Mr. Sloan's exhibit. I used his same cost ratio figure, that is, the ratio 391 of cost in the years previous to 1911, compared to the cost as of June 30, 1923. I used that ratio figure.

We had those unit costs at any time for that period. I had the book figures of the company. The figures appearing in Plaintiff's Exhibit 2 is composite. The detail figures were all combined and worked together to form the summary sheet in the exhibit. By using the same factors of reproduction cost that Mr. Sloan used, I converted the book cost of 392 the fibre conduit, the American paper conduit.

Nowhere on Plaintiff's Exhibit 2 is an item of American

Company's paper conduit. That is a part of some item that does appear on that exhibit.

Those computations were all made before I made my summary. I used the reproduction factors that we used in 1923, whatever they were. I guess this is the 1923 case.

393 I will start at the beginning: The books of the company today show what amount of conduit there is of this particular type we are talking about, carried on the books of the company, some $260,000. Now that, of course, is book cost; to put that into any per cent condition, composite figure, I would reduce those dollars to whatever the reproduction cost summation would show relatively for that kind of an item. For instance, take the figure on conduit. The book figure would have been multiplied by a factor of something like two and a half, I believe, to bring it down to the cost as of 1923, the cost level of that year. I went through that computation at the time.

394 Then I take the 20 per cent of that figure, and that would give a much smaller figure, which would be different from the total, by a certain number of dollars. That number of dollars would then represent the deterioration that has occurred in that conduit, and I would deduct that from the total of some $20,000,000, I believe it is, for conduit, along with other deductions for the other types of conduit, and bring it down to a certain reduced amount.

We found $260,000 for this particular variety of paper conduit on the books as of June 30, 1923.

This is for use in a table comparable with the cost of reproduction as exhibited at the various hearings. In this particular case we are talking of the cost of reproduction as 395 of June 30, 1923; then I developed along parallel with that another line of figures showing the various accounts and the dollars opposite them multiplied by the percent condition for each account. Making the calculation of 20 per cent of the $260,000 worth of paper conduit, gives $52,000, and assuming a factor of 2, gives $104,000; this does not make

it true that the conduit was carried too high on the books on June 30, 1923. The books would not reflect that.

396 I could only observe the paper conduit in manholes or through manholes. It was more a matter of looking over the records as to our experience in the past. It is a difficult matter to inspect conduits. It is not more a matter of looking at the books than looking at the property. It is a record of plant experience, with that kind of plant. I probably went into half a dozen manholes where that entered, but you can't tell from a manhole the condition of a conduit necessarily. You have to know what the experience has been with it. I found much of it in use, probably sixty to sixty-five per cent of it in use with cables in it, and we have had troubles
397 in the past at times because of the conduit collapsing, and making it impossible to pull a cable into it.

I had general knowledge of how much of that was encountered in the past, and taking it all in all, I made a very liberal allowance, I feel, in giving the conduit of that type as a whole a condition of 20 per cent.

403 I made two inspections of the property, one in 1921 and one in 1923. On each inspection I spent about a month. The 1921 was in the Winter, December of 1921
404 and January of 1922. The 1923 was in the Summer; I think it was August. I inspected representative parts of the property. Of course, I used my judgment and knowledge of general conditions in all parts. I did not take into consideration the age of the conduit in determining its per cent condition. I did not use any figure at all relating to the estimated life of the conduit. I did not refer to any
405 experience of the company in reference to the durability and age of the conduit. I did not take into account the age of the conduit at all in coming to my conclusion as to the per cent condition and that is true as to all the other items of physical property which I inspected. I entered about twenty manholes. I think the percentage I actually inspected of the entire conduit of the Company in Chicago would be one or two per cent. I inspected the underground cable by inspection

in manholes and I also used my general knowledge and contact with the operations in the field involving the removal of cable from conduits at various times. I examined
406 the cable records in general, at the time, including all defective pairs. I took that into consideration. They are reflected in my per cent condition. The matter of bad or defective pairs is a very small item. I would cover any per cent of damage caused by electrolysis by exact examination at the time in the manhole and also from the condition observed on cable pulled out on construction work in the past.

407 We took into account the fact that cables would be taken out of one duct and other cables put in; for instance, the taking out of two cables out of two ducts in a conduit and putting larger sized cables in so as to increase the conduit space in respect to the number of cables. At the moment of inspection there was no work of that kind going on in any place I visited, or otherwise, the inspection would be made as of a going plant on that particular kind that I found. There was no inadequacy evident. I found no
408 inadequacy. Inadequacy would not be evident by any conduit inspection. It would be disclosed more by a count of the condition as to spare cable pairs.

I made an inspection of loading coils as I entered manholes. The loading coil is of very long life. It is a very durable part of our plant, subject to some corrosion, but very little was noticeable. I entered probably four or five manholes in reference to the inspection of loading coils or cables or conduits. The ones I entered in 1923 were not the same ones I entered in 1921. In a rough way there might have been two or three hundred that I could have entered in the City of Chicago.

409 I inspected probably five miles of aerial cable in different sections of the City by going up and down the alleys, some on foot and some in an automobile with the top down, and looking at it as I went along. I climbed some poles, also. I noticed very few trouble splices. We have improved very

much in that kind of work in the last few years. I gave that factor weight and depreciated the aerial cable because of the work that had been done on it. All of the facts together taken on aerial cable gave me a certain condition.
410 It gave me an 88.1 per cent condition making allowance for the trouble splices before mentioned and other evidence of deterioration. The small figures on the right of the decimal point are tenths of one per cent. (Plaintiff's Exhibit 2.) That came about because of the fact that I entered up the condition on various units of aerial cable a certain length here and another length in another place, making the average of that; then I carried out the average to one decimal point.

I examined all of the Central Office equipment. In an office switchboard, you would find some parts of the switchboard had been put in at one time, another part at another
411 time, and so on. I did not give consideration to the fact that parts were of different ages and probably would have different lives. I inspected them for conditions evident at the time. I determined the condition of station apparatus by inspection in residential premises and in business locations. I inspected about three hundred altogether out of 657,000 that existed as of June 30, 1923.

412 I am not able to furnish a statement showing the per cent condition I found for each central office that enabled me to arrive at the average condition of 89.4%. In arriving at my judgment in respect to the per cent condition I did not have in mind at all the list of depreciation rates that the Company uses as applied to the various types of property. I did not make use of any of these in coming to my conclusion.

Speaking of all of this property generally, I did not at any time, take into consideration the estimated life of any particular item represented in these various accounts that are listed in Plaintiff's Exhibit 2, nor did I, in any instance, take into consideration the age of the property.

413 *Re-direct Examination by Mr. Bangs.*

I made a thorough search for my working papers.

"Mr. Bangs: Mr. Haight, I might make this statement for the record, I will produce testimony, if necessary: On my return from abroad I discovered Mr. Rhodes' working papers were missing. I asked him to make a thorough search. I also went to the general manager of the Chicago property and asked him to make a thorough search. I can prove that by the general manager.

Mr. Haight: You don't need to prove that. Your bare statement of that is sufficient."

414 The properties I examined in determining the per cent condition were typical cases of property throughout the City. My judgment was founded on the examination of these typical cases and my general knowledge of the plant. In determining the per cent condition in the method I stated, I considered deterioration of the then existing conditions through wear and tear, obsolescence and inadequacy.

415 I made the computation in the summer of 1923, and I used then the cost index ratio figures that were available, that is the best figures we had developed. I cannot recall precisely whether Mr. Sloan had, at that time, rendered his statement or whether I had to use Mr. Turner, but we had figures of that kind available and had had them for several years. I used at that time the best we had.

235 WILLIAM F. SLOAN resumed the stand.

Direct Examination by Mr. Bangs.

I have made quite a large number of investigations of the going value of telephone and other utility properties. In my opinion, going value is an additional value that any well conducted, well managed property, that is earning money, has as an operating entity above the bare bones cost of such a property, which just involves the physical costs, and noth-

ing else. I include in physical costs the labor and material and the necessary overheads that would be required to construct it. I have made investigations along a number of different lines for the purpose of forming an opinion and judgment as to the going value of the property of the plaintiff in the City of Chicago as of June 30, 1923. In my opinion

the determination of going value must finally be a matter
236 of judgment, but it should be based on as many lines of

evidence as it is possible to obtain regarding the things that have happened or would happen in the development of a normally successful company. I have made investigations of that character for this company.

One of the things that I considered was the fact that this company has a very large number of people who are engaged in operating the property. These people, both male and female, have been in many cases with the company many years. They are highly trained people. They are very efficient people, and they are particularly skilled in the particular work which they are doing. I considered that fact, and I further considered the fact that the company actually conducts schools in certain parts of their organization to develop their personnel. That is particularly true in the plant department and in the traffic department. When the company employs a girl to ultimately become an operator, she receives from three to five weeks' preliminary training before she is put on an operating switchboard. After she is put on the board it requires a period of from nine to twelve months

before her efficiency becomes equal to the normal effi-
237 ciency of a satisfactory working personnel. The com-

pany has developed very exact methods of measuring the efficiency of girls, and that is ordinarily related to the number of calls they can handle per hour. Of course, it has taken many years to develop the facts required to make this determination. I have considered the cost of training girls, training the supervisory force that would be necessary to properly train them, and the cost of the schooling in addition to that. The same general situation exists in the

plant department. I have made a rather careful study of the actual costs incurred by the company in these departments. I have also considered the fact that when new employees are taken on their efficiency for the period of training, varying from three weeks to as high as eighteen months, is below the wage differential that would be paid for a skilled person in the same period. I have given consideration to certain expenditures that are necessary in the way of attaching new subscribers, such as advertising and soliciting.

238 I arrived at the following figures for the cost of training the operating personnel: The traffic department amounts to $3,500,000; that covers ten or eleven thousand employees. The total for the plant department was about $3,200,000, advertising and soliciting $3,500,000, the commercial department $140,000, the accounting $90,000,

239 engineering $90,000. The total of the above is $11,420,000.

Referring to the cost of advertising and figures of that nature in connection with cost of connecting subscribers, I have proceeded on the assumption that in developing a property of this kind the subscribers would not have to be urged to take service; that they are acquainted with telephone service and really desire the service, and that there would be no expenditures necessary, except in a small degree, to actually solicit people and try to secure them as subscribers. I have proceeded more on the basis that people are acquainted with this type of service, and that as the company actually does from day to day at the present, spend money for advertising more as an educational matter in the way of acquainting the subscribers with the kind of service they need and what the company has to offer. The solicitation, although it may be carried under that title on the books, is really a matter of describing to the subscriber the kind of service that is best suited to his needs. It is expenditures of that character I have considered rather than the cost of urging people to take the service.

240 There were 657,435 telephone stations in Chicago on June 30, 1923. Practically five dollars a station, in my

opinion, is the minimum amount that the company would have to expend for the non-physical cost of connecting its subscribers as of that date. This would be slightly less than $3,500,000. I took a round figure of $3,500,000, but in my opinion five dollars per telephone would be a reasonable
amount for that as a matter of fact, although the present
241 expenditures for advertising on the books of the company are not entirely for the purpose that I have described. For two or three years prior to 1923 they averaged somewhat over five dollars per telephone.

I made an estimate as to the cost of reproducing the company's forms and methods. The company has a tremendous amount of forms, printed routine methods, etc., as the result of many years' development. They are absolutely necessary in the conduct of a company of this size, and to develop these forms, of course, required a great deal of time and energy. I recall a particular instance of the plant department expenditures for a single item—the development of text books for plant men—of somewhat over $48,000. This was just
to develop one series of text books. In my calculation
242 I have assumed a figure of $200,000 to develop the forms and methods of the company. I think that is is a very moderate figure for that item.

The net cost of publishing directories as of 1923 was about 35 cents per copy, and I have used that figure in arriving at the initial investment that would be required for directories in the case of the reproduction of the property.

With regard to fixed charges which would be incurred by the company on spare plant during the development period, the procedure which I have adopted in this respect is on the assumption of reproduction of the property. The same thing would happen if the property were reproduced as now happens when the company builds extensive additions to
the property. It is obvious that when a large structure is
243 built to serve a number of people, that the structure must be built in excess of the requirements that will be had immediately. A good illustration of that, going out of

the telephone field, would be to take a power line. If a company were building a new transmission line to a new city, in the designing of that power line they would put in more copper than the immediate requirements because they would want to take care of future growth. That thing happens in the building of apartment houses and hotels. A period of time elapses after the structure is completed and before the complete service is given. It happens when the company builds new extensions. There is a period when the investment per telephone in the new addition is greater than the average investment per telephone in the old plant.

As soon as the plant is ready for service and is cut into service the interest during construction, of course, immediately ceases, but in the reproduction of property of this kind there would be a period elapsing before the entire structure could be filled up to its complete capacity, and the fixed
244 charges on that item are what I have included in my affidavit as a proper cost of development. I arrive at $8,559,155 for this cost.

On page 146 (Plaintiff's Exhibit 1) I have set out what, in my opinion, would be an economical way of reproducing this property. The figures shown on that page are the amounts expended in each of the nine years of the construction period. At the beginning of the fourth year I have assumed that a proportion of the plant would be cut into service, and I have immediately stopped interest during construction on that portion of the property. That property, when it is cut into service, is not completely saturated; that is, it is built for more than the number of subscribers that are immediatey connected. As time goes on the subscrib-
245 ers rapidly increase and saturate the plant to its normal working capacity. I have made certain calculations, the details of which are not shown in this report, in which I have calculated the fixed charges on that unused portion during a reasonable period of development. It amounts to about one-third of the plant, being idle for one year.

By operating expenses during the development period in excess of normal, I mean practically the same thing as in regard to the plant itself. If we make the assumption that the property is being reproduced, it would be necessary to have a large part of the operating personnel connected with the property immediately as it is cut into service. That personnel would be of the size and kind proportionate to the present employees, or substantially so. Another way of putting it would be that, taking the plant as a whole, the first portion of the period those employees could operate the entire property, but only a portion of it is in service, so that there would be an excess of operating expenses above the amount actually required to serve the smaller number of subscribers who would be connected during the development period.

246 I use substantially the same basis of computing this item as I do for the charges on the spare plant. It involves a split of the operating expenses into two portions, a fixed portion and a variable portion. By that I mean certain expenses vary with the number of subscribers, while other portions would be fixed regardless of the number of subscribers. By a consideration of both elements I arrived at the figure of $7,375,944.

In arriving at my judgment as to the going value of this property, I have taken into consideration the fact that it is a well managed property; that it is earning some money. It is well conducted, is in a community that needs telephone service, and all of the facts that I could consider I have attempted to find.

247 I know of a number of other methods that have been employed by engineers in arriving at development costs and going value. I have read quite a number of court and commission decisions (including cases decided by the Supreme Court of the United States) which have allowed going value. Going value is very frequently determined upon a percentage basis. The figures which I have enumerated are what I would call evidences of going value. I do not think

any particular figure is an absolute proof of going value. These are evidences that expenditures of that kind are
248 being made. As I stated before, in my opinion going value is largely a matter of judgment. It is recognized every day in the purchase and sale of properties where amounts are paid more than the bare physical values of the property, and it has been recognized by the courts as a thing that actually attaches to a well conducted property.

I know of methods where certain commissions have used a deficit method. I think the use of that method is fallacious, but it has been used. I know of other cases where it has been assumed that from six months' to one year's operating expenses, or six months' to one year's gross revenue are fair measures of going value. In my opinion a fair allowance for a property of this character would be at least 15% of the cost of reproduction of the property, and that is the figure I have used. In dollars it is $21,750,000.

249 *Cross-Examination by Mr. Goldstein.*

The actual detail figure for training employees is $7,020,000. The figure in the affidavit is $7,000,000.

250 In connection with advertising, I did not examine the advertising copy or the ads of the company during any particular time. What I did was to get the advertising rates from the metropolitan journals and about seventy local
251 journals in the city of Chicago. At the time of my computation I did not go over any of the advertising copy to see the nature of the advertising, but I have read all telephone ads as they appear. I have not separated the $3,500,000 between advertising and the cost of educating the public through personal contact of employees.

252 I think I know the difference between going value and good will in connection with property. In my opinion good will would be the thing that I have said already exists. When I made this going value determination I have assumed

that the company would be in the good graces of the community; that they would desire the service, and that the company would have the good will to start with. I have not included any such thing as good will in my calculation. I think good will is created by the conduct of the employees of the company. It is on the kind of service they give. I think that any company would have to expend the money I have estimated to develop their personnel to the efficiency as
253 they now exist, and if they did that I think that the effect would be that the public would be well pleased with it. The effect of being well pleased is what I consider good will. I have assumed that that good will exists, however, before I made this calculation, and that a desire for telephone service exists in the community. The good will that now exists would be in existence when this property was being reproduced, and I have not made any calculations of expenditures to create good will. All I have done is to calculate expenditures to develop the personnel the company now has.

254 I consider going value an element of property the same as physical property. I think it inheres in the value of the property. I valued the physical property, exclusive of the overheads, at book cost reduced to the 1923 level. I did not determine going value on the same basis, because there is no particular way that you can determine value in that way. In the final analysis going value is a matter of judgment. You could find expenditures on the books of the company that had created the going value, but they would only be evidences of it. I have not used the figures that I
255 have enumerated except as a means of guiding my judgment. Some of the figures are actually shown on the books. Such items as advertising and training, the expenditures can be located on the books; other items can not. I have seen the method of determining going value known as the comparative plant method. I do not recall the details at present. The method I used in this case is a recognized

method. I do not know that I ever heard a name ap-
256 plied to describe this particular method. This is not
a method that I have enumerated. It is a collection of the various facts that I think are pertinent in the formation of my judgment upon it.

In my calculation of going value I assumed conditions as they existed on June 30, 1923, as to the development of the telephone art in the United States, as to the existence and functioning of the Bell system, as to the existence of the American Telephone and Telegraph Company and its relationships to the various parts of the Bell system. I assumed the existence of a demand for telephone service in Chicago. I as-
sumed the existence of toll line service to the borders
257 of Chicago, and the existence of telephone service in the
United States, and the existence of a public utilities com-
259 mission in Illinois and of the Interstate Commerce Commission. As to certain items, I assumed the existence of all facts and conditions surrounding the telephone business in the city of Chicago on June 30, 1923, excepting only the existence of the plant and business of the Illinois Bell Telephone Company. That is not true as to some items. In the matter of training traffic and plant employees I took that
from the conditions as they were from the plant there and
260 not with it away. In the matter of advertising and so-
liciting, one guide to my judgment was the expenditures shown on the books of the company for 1923. That was only one guide, however. The fact that the books showed a certain amount expended for advertising and soliciting was not the only factor I used in that item, because certain of the advertising was not for this purpose. I just considered all of these facts and gave them what in my judgment was proper weight. As to the items and figures I took from the books as of 1923, I assumed as to those figures that the plant was in existence and that the business was in existence. For my going value calculations I assumed the same relationship would exist between this reproduced property and business

and the balance of the Bell system as then existed. I
261 took into account the various contracts between the local company and the balance of the Bell system, including the American Telephone and Telegraph Company and the Western Electric Company. I do not know of any contract between this company and the A. T. & T. in regard to employees. I assumed the employees' benefit plan would be in existence. I cannot give you the specific benefits under this plan, but I know that it is a plan which this company as well as all
262 other Bell companies have for protecting their employees in case of sickness, death, and accident. It has been some time since I read it. As I recall, the benefits included as to sickness and death are increased somewhat with the length of service. I don't know whether it contains a provision for service with other Bell telephone companies or not. I
263 have forgotten. The last I knew about the stock purchase plan was that an employee could purchase one share of stock for every three hundred dollars of his salary.

I did not read or examine these various contracts between the A. T. & T. and the Western Electric and the local company at the time of my investigation. Very few of them pertain to what I am trying to get at anyway. My judgment as to what the relationship is and to the extent of the contract is based upon the fact that I knew about the contracts in general and had read many of them in the past, and, furthermore, they do not affect the problem in any way. I think I
264 have read some of the contracts of this particular company in the past, both with the Western Electric and
265 the A. T. & T., but not in connection with this particular study. Part of the items which I enumerated as occurring during the development period are paid in operating expenses. These items continue right along as the company develops. The training of employees is going on constantly. Advertising is a continuous process. Practically all of the items which I have enumerated are items that are in evidence from day to day. I testified before the Illinois Commerce

266 Commission on going value. I put in data upon which I calculated various items of going value in that case.

(Document marked for identification as City's Exhibit 3.)

267 The figures on the sheet of City's Exhibit 3 entitled "Summary of cost of reproducing business of the Illinois Bell Telephone Company, Chicago exchange," were as of December 31, 1921. In that summary I show training operators 8,325 at $260, total $2,164,400. In my calculations as of June 30, 1923, there were 10,621 operators and 1,551 supervisors. The item to correspond with the figure of 8,325 is

268 10,621. The increase of operators from 8,325 to 10,621 is due to an increase in the growth of the business for the year and a half period. I think the stations increased from December 31, 1921, to June 30, 1923, about 55,000. The increase in number of operators might not be solely due to the increase in number of stations. It might be due to the introduction of new operating methods or installation of a new office, or something of that sort. There are a number of reasons that would explain it. It could happen that there would be an increase in the number of operators without an in-

269 crease in the stations. I don't know that it did happen. I know there was an increase in operators and in stations. That is all that I can tell right now.

In the 1921 figure I show training maintenance force 1,255 at $340, totalling $426,700. I only assumed that some of the supervisory forces would be trained. As a matter of fact, they trained all of their employees. The 1923 figure is not a change in opinion. It is a change in the facts. I only considered a part of the employees in 1921, and considered a larger number of them in the present report. The whole thing is a matter that revolves around the formation of judgment.

I endeavored to consider a number of different facts. I

270 may not always consider the same facts at the same time. I did not come to a different conclusion based on the same facts. I included a greater percentage of the forces

in my 1923 statement than in my 1921, because of the fact
273 that the company actually does train those people. Training commercial forces that I had in the 1921 report at
274 $183,000 I have put in the 1923 report at $140,000.

I assumed in the 1923 report there would be a certain amount of training of the engineering forces and also of the accounting forces. They do not show in the 1921 report. One of the principal reasons for the difference between the total of less than three million dollars for cost of training submitted to the Commission and my statement here for that same item of seven million dollars is because I have included more plant employees, in accordance with the fact that the com-
275 pany actually does train these employees. This class of plant employees existed at the time of my previous estimate. I don't know why I excluded them at that time. Perhaps it was in error. Perhaps I didn't consider that particular matter at that time as fully as I should. The things are only evidences anyway.

The records of the company disclose the schooling
276 costs. I took the costs of those employees that in my opinion would be trained. Suppose five hundred went for two weeks to training school. It is fairly easy to determine how much that training cost was per man. Say a month later another five hundred went for two weeks to training school. I took those records. I investigated the training costs as related to the people that went to training school. As to the 10,800 traffic employees, I took the
277 ordinary records of the company as to the cost of training an operator. I think I considered figures for the whole year of 1923. I arrived at a cost of $260 for training each of those operators in 1921. I raised it to $300
278 in 1923 by a much more exhaustive study of the training costs. I considered that the employees that were
279 trained in 1923 were representative of the 10,800 traffic employees. I think I followed substantially the same procedure with reference to each of the other classes of em-

ployees. I think, perhaps, I considered the training conditions for the entire year of 1923 as typical of each year of the development period with which this going value item is concerned. I know I gathered this information from a dozen different sources, and know what it costs in other companies. I arrived at my calculation for training employees from the figures on the books of this particular company. I arrived at the cost per employee first by considering their schooling cost, which is one item. Second I considered the fact that after the period of schooling
280 they are not 100% efficient. Those were the principal things that I considered. We considered all other facts besides salary. We considered the cost of the teachers and the text books that were required, and all of the various
281 facts. Three hundred dollars is a composite item of the cost of training, salaries paid during the training period, and their lack of efficiency until the salary paid is earned.

282 I considered the type of girls which the company employed, and my understanding is, although I am not positive of it, that they must have had some high school training. I think that is one of the provisions of employment in the traffic department. I assumed the men in the engin-
283 eering department were college graduates of engineering schools. I didn't assume that the plant men would necessarily be college graduates, or even high school graduates, because I assume a large number of them are not. I took the average figure. I think the percentage going through school was about typical of the ratio of each kind in the whole plant.

I think the conditions of operation during 1923 were fairly typical of the period of development. I considered other
284 periods, too. I have examined the financial history of the company for a number of years past. The conditions of operation during the year 1923 were substantially typical. By substantially I mean the variation would not be enough to affect my judgment as to what the final

going value of the property is. In my 1921 calculation I assumed the operating conditions in 1921 were substantially typical of the development period. There may have
285 been variations from year to year. As far as I know, I have not included in my calculation employees who were operating the toll line boards and doing toll line service with the American Telephone and Telegraph Company. These are employees of the Chicago property. I suppose if a local call comes in and the subscriber wants a toll con-
286 nection, the girl may connect him with the toll board. I assume that incoming and outgoing long distance calls would be handled by the same operators as those operators I investigated. The number of operators I have considered in my training costs are all of the employees of the
287 Illinois Bell Telephone Company operating in the Chicago area.

I think I used the period of two or three years for my investigation as the basis of determining the $5.00 per sta-
288 tion cost of attaching subscribers. I am not sure, but I think it is 1921, 1922 and 1923. I think I used the per station gain basis in my calculations before the Illinois Commerce Commission. Before that Commission I showed a cost of $4.00 per station instead of the present cost of $5.00. As I told you before, all of the expenses recorded on the books of the company for advertising and soliciting are not for items such as I have been describing. In the 1921 case I tried to take only such items. In this present case I
289 have made somewhat of a study of what advertising and soliciting would be required by getting the rates which each of the various papers in the city would require for various amounts of space, and making such calculations it amounted to about $5.00 per station. I have approached the thing in two different ways, and get about the same results. My original estimate was based on the figures in the books, and my later estimate on those figures plus other sources of
290 information which I consulted. I used the advertising rates of the newspapers and made some rough estimates

of how much advertising we would require, and I considered it from several different angles, and I used $3,500,000. There is no particular detail to it, except I can give you the rates in each newspaper. I haven't the figures to indicate what part of the $3,500,000 I attribute to the cost of having the personal contact between trained employees and the prospective customers. I did not make a particular examination of the books of the company as to that particular item. I made this investigation to determine the fact that such employees required particular ability and skill, and that it is
a matter that you could not take a green man and put
291 him in there. I couldn't say what part of $3,500,000 I attributed to advertising and what part to the other.

I don't know the total number of stations connected during the years 1921, 1922 and 1923, nor do I know the total
292 number of stations disconnected during those years. In arriving at the $5.00 per station gain you would take the net station gain and divide it into the expenditures.
294 I don't know what classes of service were furnished by the Illinois Bell Telephone Company during the years 1921, 1922 and 1923. I did not give any particular consideration to classes. I based it on the total number and not on the number of stations per class of service. I took into account
295 in my calculations possible economies in attaching 657,435 subscribers as a part of a single operation. When your gain is from forty to fifty thousand per year, you are doing it on a wholesale basis. I think that is to a very con-
296 siderable extent. I took the period of nine years for attaching the 657,000 suberibers. I did not make any assumption as to the proportions of classes of service of subscribers during each of the nine years of this development period. I assumed that during this period there would be
a very keen demand for service. In my calculation I
297 included stations located in hotels, in public pay stations, in drug stores, and in department stores. You must remember while you are asking me these questions that, after

all, it is only one of the factors that I considered in form-
298 ing my judgment. In that period of nine years I would start advertising the first year. I have not calculated the amount of advertising for each year of the nine year period. I haven't put in any expenses at all in my nine
299 year period for disconnecting telephones. My cost of
300 attaching subscribers is based on the net telephones gained. I didn't do it by years. I just divided the expenses per year by the number of net subscribers gained, and that gave me about $5.00. I didn't assume that any telephones would be added during the first three years of the nine year period.

The item of operating expenses in excess of normal operating expenses during the development period is not a
301 nine year period. That is based on a study of how much your operating force would exceed the force that would be required for the particular number of subscribers you might attach in any year. It is what would happen if you were rebuilding the property during that portion of the nine years which you were operating. I selected the period from the fourth to the ninth year for operations because, in
302 my opinion, you could not get any plant ready for service prior to that time. I didn't consider a similar item before the Commission. In that case I was trying to form my judgment with various factors. I did not use
303 them by putting the figure down on paper. I considered it a factor worthy of consideration in this case. I considered it an important factor before the Commission, but I didn't itemize it. It covers the operating force for the plant under consideration, if it is duplicated as it was operating on June 30, 1923.

I made no segregation as to how much would be attributable to local exchange service and how much to toll line
304 service. I believe that in my plant accounts every item of plant that transmits a message to long distance board would be included. None of the strictly toll boards are included. I do not include in my expense any items which take

into account the operation of those toll boards. I got the operating expenses on the switch boards connecting to the toll boards.

I now calculate the fixed charges on spare plant at $8,559,-
155, and before the Commission the figure was $12,670,-
305 093. It was a different way of approaching the subject.

You can make a number of assumptions in a study of this kind that would give you substantially the same answer in the end. You can assume a greater amount of plant built in any one year, or a lesser amount, or a different portion going into service, and you get substantially the same answer anyway, that you arrive at the figures that help you to form a judgment. This is only one of the factors. You must realize that this has only been used as a guide to my judgment.

309 The date when the Going Value studies were made for the calculations before the Illinois Commerce Commission was in the fall of 1922, while the Going Value studies presented in the District Court were made after January 1, 1929. In the latter study no part of the 1921 study was
310 used bodily, and only so much of the data used in 1921 was used in the later study as is indicated herein.

The 1922 study was based upon the data existing prior to December 31, 1921. We went back several years to give consideration to various elements.

The 1929 study, that is the one applicable to the case now before the Court, was based upon data and elements existing subsequent to January 1, 1921.

On page 249, the figure 7,920,000 should read 7,020,000.

In both calculations, that means the 1921 and the 1929, the calculation itself assumed that the purchaser (now that should not be put "purchaser," it means the people who would be building this property if it should be rebuilt. The word "purchaser" has been used, so I will contine to use it.) The purchaser of said property and business would have created all relationships with the A. T. & T, the West-

ern Electric and the balance of the Bell System at or before the time he starts to reproduce the physical plant, excepting only that in connection with the employees' benefit plan, it is assumed that there was no fund available at the time
311 that the construction started, and allowance was made in the insurance item of overhead on 15 per cent of the construction payroll at commercial rates which the Company would have to pay.

The data used for the first study covered a period of at least one year prior to December 31, 1921. The data for the second study covers a period commencing January 1, 1921, to June 30, 1923, but our conclusions were made with further consideration of the facts occurring in the history of the Company after June 30, 1923.

Turning now to the cost of training operating personnel of the Chicago properties and listed at $7,000,000 in the second study, and $2,774,920 in the first study, the detail for each of said studies is as follows:

312 *District Court Figures on Final Hearing*

Number of Employes

Traffic	10,800
Plant	3,500
Commercial	900
Accounting	550
Engineering	50

Cost and Expense of Training:

Traffic	$3,500,000
Plant	3,200,000
Commercial	140,000
Accounting	90,000
Engineering	90,000
	$7,020,000

The corresponding figures that we used before the Illinois Commerce Commission:

Traffic, employes	8,325
Plant	1,255

And the total under commercial, accounting and engineering 707.

Cost and expense of training:

313 Traffic $2,164,400
Plant 426,700

The combined figure, commercial, accounting and engineering 183,820. The total $2,774,920.

Cost of training traffic employes:

The method used in arriving at the cost above indicated was as follows:

The cost of training the operators during the year 1923 was calculated at $90.93, per graduate student plus $30 salary for the time spent in listening on the switchboard subsequent to graduation but before beginning actual operating, plus $6.84 for the field instructor, during the listening period, giving a total of $126.77. This is calculated on a weekly salary of $15 per operator.

These figures were taken from the records of the Company as to the actual operating experience during that year. Inasmuch as the Loop operators received $1.00 per week extra during this year and the company's records show that
314 24 per cent of the operators work in the Loop, the $126.77 is made to apply to 76 per cent of the operators and $128.77 to 24 per cent, making a composite for all operators during the training period of $127.24.

We then took the percentage of experience of the operator for each month's period and figured the amount of work produced by that operator on the basis of the salary of an operator of 100% experience. The difference between the amount earned and the salary actually paid to the operator represents the cost to the company, due to the operator's lack of experience. For this purpose it was assumed that for each of the six years the wage scale of the operators in effect June 30, 1923, will continue constant.

It was next assumed that of the number of operators employed, the net number of such operators remaining in the

employ of the company during each month's period dur-
315 ing 1923 was typical and normal, so as to be the normal base for the calculations for the development period, and that during each of the monthly periods during each of the six years, this relation of employes hired and lost remains constant.

We assumed a nine-year period to build and develop the business of the company, but we did not put any plant in service until the beginning of the fourth year, so from four to nine inclusive would be six years of operation, and that is what we mean by the six-year period.

316 We assume a certain number of stations in service at the beginning of each month, and estimate the number of operators of normal experience required to serve the average number of stations each month on the assumption that the operators, having the normal or average experience, will serve an average number of stations per operator, as represented by the company's actual experience on June 30, 1923.

We arrived at the number of stations served per operator by taking the total number of stations in service on June 30, 1923, and dividing it by the total number of operators.
317 This amounts to 68 stations per operator, as of June 30, 1923.

We ascertained the average experience of operators as of June 30, 1923, to be 93.7 per cent, and assumed this as normal for the purpose of computation. To illustrate, we assumed 20,000 stations to be cut in service at the beginning of the first month of operation, at the beginning of the fourth year of the construction period, being the first year of the development period. In this calculation, we did not segregate local exchange from toll service. On this basis it was estimated that 294 operators of normal experience, that is 93.7 per cent,
318 would be required to serve the 20,000 stations.

We have assumed the above number of stations as if cut into service during this first month of the development period. We ascertained by operator experience tables fur-

nished us by the company that the operator has an experience factor of 34 per cent during the first month of service, and have calculated that it would require 810 operators of 34 per cent experience to serve the 20,000 stations assumed above. This method was followed in the next and succeeding months as additional stations are served, with the further assumption that a certain number of operators at the beginning of each month would drop out and the remainder would have the experience of an additional month.

The whole computation assumes that all operators would have to be trained by the company, and that no experienced operators would be employed by the company. The losses were calculated on the basis of the average losses from the company's actual experience shown in 1923, and we assume that this percentage and this experience is normal and typical for the purpose of this computation.

319 In addition to the direct training cost there is the element of loss to the company represented by the cumulative difference between the wages paid to the operator and the value of her service as represented by the company's experience tables from the time she begins to operate the switchboard throughout the development period. According to the calculations made, it is necessary to train 33,431 operators.

The cost for training each of these 33,431 operators was computed at $127.24, or a total of $4,253,760. The loss in performance above described during the period of development of these same operators was computed at $597,169, making a total cost to produce 10,718 operators at the end of the period of $4,850,929, or $452.60 per operator.

Due to several factors, the experience of the Company
320 since 1923 shows a somewhat smaller percent of turnover than that of 1923, which was used in this calculation. The exact percentage of decrease in turnover was not determined, but an allowance was made of approximately 33⅓ per cent to cover such estimated decrease, plus other elements, which, in our judgment, may have affected the ultimate result.

Therefore, the cost of training an operator was decreased from $452.60 to $300.00 per operator. In fact, there were on June 30, 1923, 10,621 operators, which figures included female supervisors also. At $300.00 per operator, this makes $3,186,300. In addition, there is a special training of operators to qualify them as supervisors. 1551 such supervisors (female) were on the payroll as of June 30, 1923. This training cost amounts to $243,352, based on the actual salary paid these supervisors during the 6 weeks' training period, in which they perform no productive work. There are also 120 male supervisors whose training cost has been calculated at $90,000, thus making a total of $3,519,652, which is rounded off to $3,500,000.

321 The calculations submitted to the Illinois Commerce Commission were based on the number of operators on the payroll as of December 31, 1921, with the possible exception that they may not have included supervisors and the cost of training was based on the experience of 1921. The difference in cost of training per operator arises from the fact that the actual cost during the respective periods studied may have been different and also from the fact that no allowance was made in the earlier calculations to give effect to the additional cost due to turnover, which allowance was made in the 1923 computation. The earlier calculation also did not take into account as much detail on each item of cost as did the latter study.

Now, I have made considerable change on page 8, which refers to plant employees. The difference in the number of plant employees shown in the two studies was due, first, to the fact that in 1923 a greater number of employees actually existed than in 1921. Secondly, after a more careful consideration of the facts, we are of the opinion that all plant em-

322 ployees have had the equivalent of training in one way or another, and have consequently applied training cost to all such employees, rather than to the limited number which was used in 1921.

When I say "all plant employees" janitors, elevator oper-

ators, etc. have not been considered at all. I should have said "mechanics." In the 1929 study I took from the records of the Company the exact number of employees. These men had had either school training or its equivalent. The cost of training plant employees shown in the 1921 figures was $340.00 per employee. The cost of training employees shown in the 1929 report was $925.00 per employee.

We found that for the year 1928 the Company's records show sufficient data of training costs from which we could
323 and did determine such training cost per employee. This data was much more complete than that available in 1921. The 1921 figure was our best judgment at that time.

We took 1928 instead of 1923 because the training costs had been better consolidated at that time, and represented more nearly what the costs actually were for the training of employees. In 1923 they had certain costs, but I do not think they were as complete and did not represent all of the costs.

We used such data as follows: We took the actual number of man-days of training given during the year 1928, and estimated the percentage of these man-days which applied to new employees, as distinguished from old employees, who
324 were taking more advanced training during this year.

This estimate of percentage was based upon the judgment of one of the officials who was in a position to observe the kind of employees who went to school during that year. We found the man-days of new employees to be 1490 out of a total of 9740. By that I mean, there is a large number of people trained each year. Some of the oldest men will go to school for a few days. We only tried to arrive at the training cost of men of experience of less than 18 months.

From this estimated number of trained man-days, of new men, we developed the per-man cost of training, which included school expense as of 1928, in the amount of $12,896, plus salary to students on the 1923 salary basis of $4470. The reason we did not use the school expenses in 1923 was the fact that the data for that year were not readily available and were not so accurate. To this we added one month's

salary (based on the 1923 payroll) to cover the cost of one month's time spent by the student as an observer on a regular work gang. Such men received an average of about $70.00 per month, which figure we used. These two costs added
325 together give a total training cost per employee of $195.00.

We then applied this cost to the number of plant employees shown on the records of the Company as of June 30, 1923, to-wit, 3160, making a total cost of $616,200.00.

We next figured the loss of efficiency of these employees as follows:

As there were no company experience tables for these employees comparable in detail to those for operators, we did not rely on such experience tables to the same degree as we did in the case of operators calculations, but we estimated for the plant employees experience factors according to our best judgment.

The loss due to the relative performance of these plant employees during the first 18 months of service after training on the basis of 16 months of 50 per cent efficiency—

You see we have already deducted one month for training and a certain number of days prior to that in the school, so that we base it on 16 months. The reason why we used 16 months instead of 18 months was to avoid the duplication of one month's observation already discussed.

326 Training on the basis of 16 months of 50% efficiency totals $2,022,400. We also found 362 female plant employees on the payroll as of June 30, 1923, who did not receive Company training, but who we estimated required three months' experience with the Company to become proficient. We therefore estimated the loss of 50% for three months, in other words, we assumed that they would be 50% efficient during that three months, making a total of $33,010. These estimates were based upon our judgment plus the judgment of the company's officials.

327 The reason for cutting down the period before mentioned from 18 months to 16 months is that there is one

month in that period taken care of in their training time. There might have been some difference in their acceleration as regards efficiency, but the principal reason is the two months' prior training, that is, one month plus the training, the school term. It is less than that, but we just took two months off.

We then made a 20 per cent allowance for employees who received training, but who did not stay the full 18 months with the Company. This was based upon our judgment, but without any data other than the fact that there had been a turnover of 36 per cent of the plant employees having less than 18 months experience during 1922, and the first six months of 1923. We then added $50,000 to cover the cost of texts and pamphlets, which was substantially the figures the company spent for their training books. This made a grand total of $3,261,932. We have rounded it off to a round figure of $3,200,000.

328 *Commercial Employees:*

The item of cost of commercial employees used in the 1929 study was based upon the actual experience of the company during the year 1928 applied back to the 1923 payroll.

The 1928 figures, rather than any figures of a period prior thereto, were used for the same reasons as the figures for the same period were used in the case of plant employees. As to accounting and engineering costs, these were based upon our judgment and that of the company officials with whom we discussed the matter, rather than upon experience tables, as no such tables were available for any period of the same degree of accuracy as that used for operators.

The next subject is The Cost of Attaching Subscribers to Telephones and Advertising. In the 1929 study this item appears as $3,500,000, as compared to $2,421,980 in the earlier study.

329 The statement that in both studies the costs were based upon the cost per station gained, and in the earlier study it was $4.00 per station gained, and in the later study, $5.00

per station gained, is not true. As I told you in my direct testimony, we considered that factor. We realized that certain of the costs shown prior to 1923 for net stations gained were not figures that would be comparable to the cost of educating or attaching new subscribers. The fact was they actually expended about $5.00 per net station gained, and I gave some consideration to that. I also testified that I had studied the advertising rates and the probable expenditure that would be made in advertising in the newspapers in the case of a reproduction of the property, which totaled somewhat over $3,500,000, so that this statement that it was based on $5.00 per station is not entirely true. It was only given a certain amount of consideration.

330 The cost to the Company in attaching subscribers, together with advertising, would probably be more than $5.00 per station gained in reproducing the property. What I am trying to point out is that I have not based it on the book figure of the company. I have investigated it, and found that there was an expenditure of about that much.

I considered the fact that the actual cost of advertising and personal contact to the company has been slightly over $5.00 per station gained. I also considered the cost of making a complete newspaper canvass of the City in case of reproduction; that is, if you began operations, you would use a certain amount of space in the newspapers telling the public what you were doing and why you were doing it and things of that sort, and that study indicated somewhat over $3,500,000.

332 I did not multiply the 657,000 telephones by $5.00 per station to get the $3,500,000. The $5.00 per net station gained is simply a line of investigation I disclosed for what value I might attach to it. Then I say, in my opinion, the minimum amount of cost for connecting subscribers would be $3,500,000.

333 I did not add anything to book items. I simply made an independent study about the expenditure that would be made in the case of reproduction.

334 I used the experience of the company simply in arriving at my judgment that $3,500,000 was about right.

335 The next subtitle is "Operating Expenses in Excess of Normal during the Development Period."

This item did not appear in the 1921 calculation submitted to the Illinois Commerce Commission, as we did not in 1922, when we made the study, give this factor consideration in our calculations. In the 1929 study, as the basis for the calculation, we proceeded as follows:

We took from the books of the company all expenses covering the following specific accounts for the period of time from 1921 to 1925 inclusive:

Traffic, commercial, general (excepting the item of insurance which has been included by us in our appraisal of overhead expenses), taxes (except property taxes). These items aggregate a yearly average of $18,390,813 during the five-year period above mentioned.

336 We then found the average number of stations in service during the five-year period from the records of the company as 668,727. We divided the above average number of dollars by the above average number of stations, which resulted in the average normal operating cost per station of $27.50. In these items the Company did not and we did not segregate the local exchange from the toll expense.

Of the amount of $27.50 we estimated that $23.94 is an expense that in the main would vary in proportion to the number of stations in service, while the balance of the expense would in the main be incurred irrespective of the particular number of stations in service at the particular time when such expenses were incurred.

337 We arrived at our estimate of the variable portions by going over the detail of the several items of expense which we enumerated above, and formed our judgment as to which of those would vary with the stations in service and those which would not.

We next assume the same number of stations cut into service yearly during the development period, as we assumed in our 1929 study of traffic training costs above described.

We multiply the average number of stations in service during each year of the development period by the item $23.94 derived as above described, and to this total we added the fixed cost for each year of the development period, which fixed cost was the average yearly amount of fixed cost which we calculated as above for the five-year period, 1921 to 1925. The fixed and variable items aggregated for the six-year development period $78,813,403. We then made another calculation in which we applied to the average number of stations in service during each year of the development period the normal rate of operating expense, that is, $27.50, and arrived at a total of $71,437,459, the difference being $7,375,944, which represents the operating expense during the development
338 period in excess of that normal to the stations in service.

For these calculations we calculate that both the variable expense per station and the fixed expense *in toto* would remain constant during the entire development period, and also that both such items during such development period would be identical to the experience of the company during the five year period of its own history, 1921 to 1925, inclusive.

I used the word "calculate" instead of "assume" because it is more than an assumption. What I mean by that is it is based on our best judgment. We have had some experience in working with things of this sort and I do not mean to give the impression that we just take something out of the air.

339 It is my best judgment, it is my conclusion, not an assumption.

The next item, Forms and Methods, $200,000.

In the 1921 calculation we used $175,000 as the cost of forms and methods, and based that figure on 1750 forms at a cost of $100 per form. According to our recollection we arrived at the 1750 figure as the amount representing all of the forms used by the company in its operations at that time. We then

considered the fact that the 1750 forms were the result of an evolution of form development over a period of years.

340 We did not use specific items of cost of development, but arrived at our result, based upon our judgment, as to what such development would cost.

In the 1929 study, we have no more data than before, but revised our conclusions to a lump sum of $200,000 as a result of our judgment based upon the increased number of forms which we assumed would be used June 30, 1923, plus the additional cost which we considered would be incurred in the further evolution of the existing forms. It is obvious that we could not, in 1929, make an actual check of the forms in use as of June 30, 1923, and we did not make such check.

The next item is Directory Expense, $230,102.

In the 1929 study, we used the following method: We found the net cost per directory for the period from January 1, 1921, to June 30, 1923, by taking the total net cost of directories published over that period, to-wit, five issues, and dividing that net cost by five, arriving at the cost of $249,155 per issue. Then we found the average number of stations in service for that period, being 633,875, and found from
341 that the directory cost of 39c per station. We actually used, however, 35c, as a basis for our calculations, and multiplied it by the number of stations in service on June 30, 1923, making a total cost of $230,102.

In the 1921 calculation, we used similar methods, but for a different period than the later calculation, which fact accounts for the difference in the directory cost per station as used in the two calculations.

The next item, Fixed Charges on Plant During Development Period, $8,559,155. The 1921 calculation shows this item as $12,670,093. In the 1929 calculations, we proceed on the basis that during the development period, that is, from the moment the plant is put into service, such plant cost should earn at least the property taxes, maintenance expense, depreciation expense and also an 8 per cent return. We selected 8 per cent

on the assumption that 8 per cent is a fair return on capital as has sometimes been allowed by the courts. For property tax, we used the actual dollars in tax for 1923, expressed as a percentage of the reproduction cost of the plant exclusive of overhead.

342 In maintenance expense we used one-half of the actual rate of maintenance expenses incurred in 1923, as shown by the Company's books. We used one-half, inasmuch as we concluded that a new plant would probably not have as high a maintenance rate as one actually found in a developed plant such as existed in 1923.

For depreciation we used 4½ per cent. For rate of return we used 8 per cent. These items aggregate 17 per cent of the fixed charges on the entire plant. We then applied 17 per cent to the amount of plant on which charges must be carried until the business was developed over and above the cost of plant on which telephone service can earn all the fixed charges.

We arrived at the cost of plant which we used for this purpose as follows:

343 We took from page 149 of plaintiff's exhibit No. 1, the cumulative cost of construction undertaken during each year of the reproduction period, as shown on the line marked "total." We then estimated that part of each amount of plant which would be ready to give service during each subsequent year of the development period beginning with the fourth year of construction.

This estimate was the result of our judgment and for the yearly periods was as follows:

Beginning of 4th year	$16,996,143
" " 5th "	37,055,956
" " 6th "	68,577,933
" " 7th "	96,878,978
" " 8th "	118,744,087
" " 9th "	140,551,330
End of year	145,248,344

344 We likewise estimated as a result of judgment what the cumulative cost of plant would be each year of the

development period on which telephones in service can earn all fixed charges. We arrived at our estimate by dividing the total plant in existence at the end of the development period by stations in service at the same time, which gave the normal cost of plant per station in service for a property of the size of the company's property actually in existence in 1923. That cost per station was then modified to represent what we estimated, as a result of our judgment based upon our experience, would be the normal cost per station for plant of a property of a size corresponding to the number of stations in service during each year of the development period.

We then multiplied the number of stations during each year by the average cost of plant per station normal to that number of stations as follows:

345

4th year	$ 13,812,500
5th "	34,255,000
6th "	56,907,500
7th "	81,770,000
8th "	108,290,000
9th "	133,421,457
End of year	145,248,344

In each case, from the fourth to the ninth year, inclusive, we mean "Beginning of each year."

We next substracted this cumulative cost of plant on which telephones in service can earn all fixed charges from the cumulative cost of plant ready for service, and arrived at the following cumulative cost of plant on which fixed charges must be carried until the business developed, to-wit: $50,347,970.

Against this amount we applied 17 per cent as a normal rate for our fixed charges enumerated above, or $8,559,155.

In the 1921 calculations we used a similar method as that
346 used in the later study, but made a different set of assumptions from those used in the later study, but which assumptions in each case we concluded were reasonable at the time we made them. In all our calculations on going value no segregation was made of toll line service from local exchange.

The above constitutes a general outline of one method which we used in forming our judgment as to the proper Going Value for this property.

348 In my affidavit, I stated that at least the fixed charges on that excess part of the plant during its earlier years of operation, should be considered a part of the cost of reproducing the business. In my calculation, six years is the period during which service is rendered.

349 I used the fixed charges on plant in excess of normal during the six year period. You can make a number of assumptions as to the period. The general effect of changing the length of the period would be to either increase or decrease interest during construction and pile it up on the other side. One period would not be just as reasonable as
350 another on the assumption I took.

I think the nine-year period of reconstruction is the most economical period that can be taken to properly develop this plant and business. It is all a matter of judgment.

I do not think that many of the forms included in the 1750 used in my calculations are of the type that are filed with the State and Federal Commerce Commissions. The forms I refer to are those used in the conduct of the business.

351 I presume that some of the forms are A. T. & T. forms. As a matter of fact, it is all the forms that the company used, all the forms that we found that are required by the Company to operate their business. Similar forms are used by other companies than the Illinois Bell Telephone Company. I do not know that other companies use all the forms that this Company uses. They have a large number of their own.

352 Many of these forms are standard for all parts of the Bell System, but not all. I do not know what percentage are standard.

The cost of attaching subcribers to telephones varies with both the number of stations connected and the number of subcribers. If a man has a telephone, he is a subscriber.

The company comes around and urges him to take an extension. He is still a subscriber, but if he takes an extension, he has two stations. Both factors are to be considered.

I have had read to me a part of my testimony before the Illinois Commerce Commission as follows:

"I have considered the going value of this property as defined by one of the court decisions as the value of a property in operation and giving service, having a value over and above a property consisting of the bare physical structure not in operation. To do that I have
352 considered the financial history of the company, and have considered the cost of establishing or connecting the business. I have considered the stock and stock dividends since the beginning of the company, and its financial history in general. The company has been successful and has been able to finance itself at all times at a very moderate cost. With the exception of about four years during the war, it has always earned its dividends. There was a period from 1917 to 1920, when dividends were not earned, but by reason of the strong financial position of the company, it was able to carry itself. During those years it was able to pay dividends from surplus. Taking all those things into consideration, and the fact that the company is a strong financial institution, which has been able to finance itself on very favorable terms, and so able to carry itself during a period of tremendous financial distress, and is held high by the investing public, my opinion is that the going value is at least a million and a half dollars higher than the cost of developing the business, which was $18,500,000."

354 I have all of these facts in mind. I have the cost of development in mind. All of the various factors which enter into the cost of development and going value I have in mind in arriving at a figure of $21,750,000. I still agree with the testimony quoted.

355 I do not attempt to reconcile the items of cost of development made in this case with the similar items before the Commission. They were two studies made to arrive at some guide in forming my judgment. I approached the matter one way at one date, I approach it now in a somewhat different way.

In arriving at my final figure of $21,750,000, I considered the items of cost enumerated and many of the other factors which were read from my previous testimony. I considered other methods of arriving at going value, and by consideration of these things I formed my judgment. I think $21,-
750,000 a very conservative, reasonable amount for that
357 item.

I have not given any consideration to good will, except that I assumed that it existed before the plant was built. Good will is the development of long years of giving good service and having good public relations. I don't know how it could be measured in any proceeding.

359 Going value takes into account earning power to the extent that it is not based on past losses. It is not based on any assumption of earning power. That depends upon what rates they charge. The earning power is limited, of course, by the rates that are used, that the regulatory body permits.

360 The earning power of the business is created by the perseverence, efficiency and ability of the operating personnel, and the quality of the service that they offer the public.

361 The operators listed on the June 30, 1923, payroll were all of the operators employed as of that date on everything except long distance. No long distance operators were included.

The experience tables furnished by the Company to me and used in my computations were those tables of experience contained in Circular 117 issued by the American Telephone and Telegraph Company.

The number of operators actually in service, which I used in my calculations, included all the operators except those on the long distance boards.

362 The training costs which I have used did not include those on the long distance boards. The Illinois Bell Telephone Company pays all of the other operating expenses for the ones that we considered.

The 657,000 stations included the stations used by the City, the official stations of the company, the stations in the railroad stations and the others. If those were excluded, of course, the cost would be divided by a smaller number, and would have shown an increased cost per station.

363 *Cross-Examination by Mr. Clausen*

With reference to the cost of training employees, I considered the question whether or not any of those persons would be engaged in construction work. None of the employees that were engaged in the actual reproduction of the property would be considered as training. We have assumed, however, that certain of the employees that are now in the employ of the company, or as of June 30, 1923, were construction men, but a certain proportion of those is part of the operating personnel of any company.

There is a period when the men are being paid more than they can earn.

364 We have made no allowance for that in our construction cost.

The company had some excess plant or spare plant on June 30, 1923. I don't know how much it was. I examined the books but it would not be disclosed by the books. I don't think it can be determined from the books.

I am familiar, in a general way, with the Uniform System of Accounts as adopted by the Interstate Commerce
365 Commission. I don't think there is any provision in that system of accounts with reference to the operating expenses during the development period. I think those accounts are provided primarily for operating companies. I don't think they contemplated the building of a new property. Those accounts are provided primarily for those plants that are built.

370 *Re-direct Examination by Mr. Bangs*

I have the details of the studies I made in connection with advertising expense.

371 This is a study of certain advertising expenses that would be made if this property were to be reproduced in a reasonable period of time, nine years.

For the purpose of this estimate we have taken an average for newspaper advertising cost for the period 1923 to 1932. That is a nine year period.

Also, it is assumed in this estimate that during 1923 there were preliminary negotiations which will be disposed of. This would include the application for charter for the company, application for an ordinance from the City Council, and application for a certificate of convenience and necessity from the Illinois Commerce Commission.

For the first year, it is recommended that a series of three ads be utilized when the application for a charter is made. These three ads would contain a story of the company's aims, purposes, etc.

It would take, perhaps three ads to do this. Therefore, our first expense would be these three ads, which we would recommend be run in the seven Metropolitan newspapers in Chicago; forty-seven neighborhood and miscellaneous
372 Chicago papers, and thirty-three foreign language Chicago newspapers. This would give a city-wide coverage, and the cost of the preparation of these full page ads, composition, plate making, and newspaper space would be $80,148.00.

It is suggested that these three ads be run within a month after the charter is applied for.

The next step would be when the company's attorneys applied to the City Council for an ordinance for the use of the streets, etc. It is suggested that one full page ad be run when the application for the ordinance is made, and that another full page ad be run when the ordinance is granted. The cost of these two full page ads would be $53,432.00.

The next step undoubtedly would be an application to the Illinois Commerce Commission for a certificate of convenience and necessity and a provision for rates.

It is suggested that a full page ad be run in the three groups mentioned above, when the application is made, and another one when the application has been granted. This is a total of $53,432.00, making a total, for the first year's advertising of $187,012.00.

For the second year it is proposed that one one-fourth page ad per month be run in all of the above mentioned
373 publications. These ads would show the progress of the work, etc.

This would cost $80,148.00
For the third year, same as above.....80,148.00

For the fourth year it is suggested that the second year space be increased, but using substantially the same kind of advertising; which would give us a half-page ad per week in the above mentioned publications.

This would cost $794,616.00
For the fifth year, twice a month as above 320,592.00
For the sixth year, same as above... 320,592.00
For the seventh year, same as above 320,592.00

For the eighth year it is recommend that we go back to the full page basis in all of the publications listed above. This would give us one full page ad twice per month in these publications, and the cost would be $641,184.00.

For the ninth year, the same.....$641,184.00
We also include an item of..... 200,000.00
374 to cover the whole nine-year construction period. This would be for special advertising to be run during the period, containing information about where applications for service are to be made, rates, and general information regarding the use of the telephone and the facilities offered by the company.

This would give us a total of.....$3,586,068.00

That is just another thing we considered in arriving at what we think is a fair amount.

Where I have used the word "assume" in the foregoing, except in the case where it is obvious that "assume" is the correct word, ordinarily it would be "It is our opinion" or "We estimate" or "It is our best judgment." We have tried to avoid any assumptions that are just taken out of the air, without any basis in fact whatever. They are judgments and estimates based on the experience and consideration of the figures that were available.

375 I have an opinion as to whether the 1928 experience of the company could be fairly applied to the year 1923 as to the items for which I used the 1928 experience. In the cases where we have used the 1928 experience, it applied to training costs only. In the earlier years, the full records of the training school were not segregated as accurately as they were in 1928, and for that reason I used the 1928 costs as the basis of what the school costs actually were. I had information available to me in my 1929 study which was not available in the 1921 study.

Re-cross Examination by Mr. Goldstein

I do not know when the training school was first started by the Company. It has had them in effect a number of
376 years. The training schools have been elaborated and increased in extent, and it is those costs that really are representative of what the value of a man is, after he has had a number of years of experience. That is the reason for taking the 1928 costs. I do not say now that the reason I took the 1928 cost was that the schooling was more elaborate in 1928 than in 1923; but it contained more details and segregation of a portion of certain costs between the teachers and the operating personnel has been better kept.

I assumed in my calculation as to the cost of reproducing the property and business, that the demand for telephone service existed at the time when I started construction.

377 I did not assume that there is any advertising for the purpose of inducing the people of Chicago to take Telephone service from the Company. A lot of advertising would be necessary to explain why the streets were torn up and tell the public when they were going to get the service, tell them what kind of service they need and things of that kind. I assumed the people would want service, or there would be no object in building the property. The ad in the newspapers of Chicago at the time of the application for a franchise would consist generally of a statement of the aims and purposes of the people that were building the property, what they had to offer and what length of time it would be be-
378 fore they could expect to get service, and general things of that sort. The ad during the first year of construction would be of the same general type, constructive and educational, and would tell the public what is required and things of that sort. It would be much the same in the second year.

You begin to give service in the 4th year of the program.

952 Replying to questions regarding traffic employees, the following statement is submitted:

NET INCREASE IN TRAFFIC EMPLOYEES.

	1923	1924	1925
Operators	510	232	644
Supervisors (female)	384	144	36
Supervisors (male)	4	17	2
Others (clerks)	24	33	18

Operators on toll boards (exclusive of long lines operators) included in our calculations, 332.

Salaries for these operators are paid by the Illinois Bell Telephone Company.

No long lines operators have been included in any of our calculations.

435 U. F. CLEVELAND having been first duly sworn as a witness on behalf of the plaintiff, testified.

Direct Examination by Mr. Bangs

My name is U. F. Cleveland. I live in Oak Park. I was first employed by the Chicago Telephone Company in the year 1892 in the Accounting Department, and continued in that department, except for a brief leave of absence, continuously since then. I became General Auditor of the Company July 1, 1920, and have been General Auditor since then.

436 That is the chief accounting officer. I have complete charge of all the books of the Company, its records and accounts. As far as the general books of the Company are concerned, we have two floors in our building with somewhere around two hundred employees engaged in that work, that is, exclusive of accounting for subscribers which requires in Chicago another approximately seven hundred people. The Chicago Revenue section occupies about nine floors of the building, about eighty by eighty, on the southwest corner of Franklin and Washington Streets.

437 I testified both as General Auditor and as Chief Accountant before the Public Utilities Commission in the case which was decided December 20, 1920. I testified before the Illinois Commerce Commission in the case which resulted in the order which is here under injunction. I am familiar with the uniform system of accounts of the Interstate Commerce Commission and with the uniform system of accounts of the Illinois Commerce Commission. The uniform system of accounts of the Illinois Commerce Commission is the same as that of the Interstate Commerce Commission.

(Agreed by the parties that the accounts are identical)

438 (Plaintiff's Exhibit 3 being a certified copy of the uniform system of accounts for telephone companies of the Interstate Commerce Commission admitted in evidence.)

I have had constant contact with the financial operations as well as those relating entirely to the accounting matters.

I have an opinion as to the amount of necessary cash working capital that the Company would have required on June
439 30, 1923, exclusive of the necessary materials and supplies, for its Chicago exchange. That opinion is $3,000,000. It is a matter of judgment and in arriving at that figure I considered, among other things, the amount of our expenses over a period of six weeks, which has been found to be a fairly good measure of the working capital requirements in our business.

I also gave consideration to the matter of the amounts at all times receivable from our subscribers for service furnished, also the amount of actual working assets and working liabilities, as shown by the books of the Company.

440 The average amount of investment of the Company in materials and supplies for the Chicago exchange during the year 1923 was $233,000. That is a very reasonable amount.

Cross-Examination by Mr. Haight

The method I used in estimating the amount of working capital required by the plaintiff company for the business of the Chicago exchange is to find what is required for a six weeks operation, having made some computations, that
441 is, to find that my judgment was not erroneous. I have used a method by which I took the difference between the working assets and liabilities. Taking the whole Company as of June 30, 1923, the figure for Chicago was approximately $2,486,000. My memorandum figures show
442 working assets, exclusive of materials and supplies, at $7,195,504. I used the net figure after deducting working liabilities which were $3,590,924. The working assets represented the cash and other liquid assets immediately available, receivables from subscribers and items of that sort. I have not the figures before me nor any recollection so as to give a rough figure as to how much of the working assets was cash. We do not keep our cash separately for items

received from sales of securities or from our ordinary
443 operations. It is all in one treasury. I eliminated, however, those treasury securities which we were holding which had to do with our financing. It included cash for ordinary operations. I have not the figure before me for treasury certificates. I have one figure representing the total of working assets of all kinds. That figure is for the entire company. We have no separate records of that sort for Chicago exchange only.

444 I believe another method is sometimes used in appraisals of using a certain sum per station in getting at working capital requirements. I believe that sometimes a method is employed of using a percentage of plant value.

I made no estimate for materials and supplies for the
445 year 1923. My testimony as to materials and supplies was the average amount for the year 1923 for Chicago. The actual amount was $233,000, which I got from the Company's books. It was all of the materials and supplies applicable to the operations in Chicago. Without question some of them were used in construction work. I do not believe
446 it is possible to determine how much. Some is for current operations in connections with the changes in subscribers' service and our current operations of that sort. This figure for supplies does not include items in transit. I would qualify that. If you mean transit from some place clear out of the city, no; if you mean transit from warehouses to the place it is going to be used, yes. For my figure I assumed such supplies had been paid for.

In the figure that I gave, $3,000,000, that is the requirements for six weeks' operation for current operations
447 and maintenance costs. I did not include any part of construction expenditures. Construction expenditures are not operating expenses. I did not include station installation. I used six weeks' expenses because that was my judgment. I used the six weeks as a matter of computation in order to satisfy myself that in estimating the necessary working capital of $3,000,000, I was not far off because I

believe six weeks' expense is the approximate measure
448 of requirements in our business. I do not think there is any substantial difference between actual accrued expenses for six weeks and what we actually pay out in the six weeks.

I did not consider in computing six weeks' expenses such an item as thirty days' credit in which to pay our bills.
449 $3,000,000 is my estimate of the amount necessary to have so that we can pay our expenses according to our methods of paying them. It we paid all of our bills six months after they accrue, we would not need as much working capital, so that the question of credit does have some bearing upon the working capital requirements. The bearing that credit has on the question of working capital is the length of time we are entitled to hold bills without paying them.
450 We have to pay them sometime, no question about this. If we do not pay this month's bills we would have to pay last month's or the month before. We probably would not need as much working capital, however, if we had six months' credit. We would be getting in more money from our subscribers. Assume a dollar income every day and seventy-five cents to do business, and that the bills do not have to be paid until long after our income comes in, the necessary working capital would be some lower than it would be if spot cash were paid for bills. I would not say much lower. It has some effect on it.

In these computations I did not take into consideration
451 tax accruals in arriving at necessary working capital. I took into consideration insurance requirements so far as they were met.

I did not take into consideration the requirements or accruals for depreciation reserve.

As far as our paying bills with the Western Electric are concerned, the relations between the Company and the Western Electric in regard to credit were considered in one of the calculations. I considered the relationship which actually

exists, which is that we pay our bills on a schedule, substantially thirty days.

452 The average time which elapses between the time we render service to the subscriber and the time he pays us varies for the different classes of service. Take for example our coin box service, in which the user makes a deposit of coin for each message. Those collections are made at the end of substantially thirty days or in substantially fifteen days on the average after the service is performed, before we collect. For toll service had by those subscribers, a bill is rendered somewhere around an average of eighteen days after the service and then there is a further period of an average of fifteen days before those are collected, so that is something over a month. That is about the same as the time we have for paying our bills.

453 In cases of measured service, a minimum guarantee is billed in advance, which is substantially paid on the average on the day on which the service is furnished, and the additional service over the minimum guarantee is paid something like a month and a third later.

454 In the case of Western Electric purchases, we receive thirty days time. To others than the Western Electric we pay most of our bills as soon as we receive them and check up on receiving the goods.

455 It is not a fact that we do receive cash before or at the time we give the service. I believe I testified entirely to the contrary. I cannot tell you what percentage of the moneys that the Company collects for service is paid either at the time the service is rendered or before rendering of service, but practically none of it on the average. I have to speak in averages because we keep no statistics of that sort for any one of our seven hundred thousand stations.

The subscriber who is on the flat minimum guarantee basis pays on the average about the day on which he gets his service, possibly an average of about three to five days later. I might clear up that by saying exactly how we bill that. Assume a subscriber on message rate who has no additional

messages. His bill is rendered for one thirty day period in advance. The bill goes out substantially six or seven days after the date of the bill and on the average that bill is collected within the next thirty days, so that it means something like three or four working days on the average after the service is rendered before the account is paid.

456 According to the Company's rule, bills are due when they are presented. In most cases the Company has effective means of collecting its bills. The most effective means is to discontinue service.

I have not given any consideration to the ability to secure advances from the A. T. & T. Company in respect to the requirements for working capital. I have not considered the fact that the local company has made loans to the A. T. & T. Company.

895 I prepared City's Exhibit 13 for identification. The expense accounts included in the item "Operating expenses" are the traffic, commercial, general and maintenance expenses. The maintenance expenses are just the current costs of maintenance. No pro-
896 vision for depreciation is included in them. In this computation the figures represent just what it says, average of six weeks' expenses, which is approximately what we would pay out in that time. It does not profess to represent actual payments made. That is what it practically provides for. I cannot tell definitely the answer to the question as to whether it represents actual payments made. This is a computation which I produced at your request. It does
897 not provide for taxes at all. It does not include the franchise tax of the city of Chicago, nor does it include any expenses of depreciation or of amortization of landed capital. It does include expenses on account of the license payments made to the A. T. & T. I haven't the figures here as to how large an item I included for that amount. For the entire year 1923 the amount included in operating expenses for the license

payment was $1,724,250. To obtain six weeks you would
898 take 6 as the numerator and 52 as the denominator. All property taxes, real estate taxes, are payable in the spring after the year that they accrue. I believe the corporate franchise tax is payable annually in June or July, in advance. The income taxes are paid quarterly during the subsequent year. We pay the 3% franchise tax twice a year within sixty days after the end of the quarter. The 4½% license is payable
900 to the A. T. & T. Company monthly. If we collect anything from our subscribers for these various items, we have it in our business. The tax accruals applicable to Chicago were approximately $3,670,000. I haven't the detail of that tax account. The franchise tax paid to the City of Chicago is included in the figure I just gave. The total amount accruing for the payment of state, county, Fed-
901 eral, income and city franchise taxes will approximate as of 1923, roughly, about $300,000 a month.

The company provides funds monthly for the Employees Benefit Fund. Disbursements are made on account of that fund every day. The current operations of that fund are covered by current operation payments. Service connection charges are collected at the time of installation or before installation. That is to say, from new subscribers. That is not an invariable rule. Some of them are billed and paid later. I have not the figures of how much the company
902 received on accrued balances from the banks during the years 1921, 1922 and 1923. I haven't the figures with me of what was received on balances with the A. T. & T. during those same years. I do not know of any requirements under our mortgage securing the fifty million dollar bond issue to make monthly deposits with any depositary or trustee. Interest on the bond issue is due and payable semi-annually, in June and December. We pay the interest in full, and I believe that is all. I do not think there is any tax covenant in the mortgage in reference to interest payments.
903 None of the principal matured in 1923, 1924 and 1925. There may have been some retired through the operation

of the sinking fund, but I do not know what amounts were retired. The sinking fund is paid twice each year in cash.

It is a thing that we have to provide for. There is no
904 reserve set up on the sinking fund. We pay dividends quarterly on the common stock. We do not keep a reserve to take care of dividends. We pay dividends out of our profits.

Re-direct Examination by Mr. Bangs.

These tax items are not included in the item "operating expenses," as shown in this exhibit.

1121 *Re-cross Examination by Mr. Haight.*

I find that the Company advanced money to the American Telephone and Telegraph Company during the year 1923. There was an advance of $500,000, a loan on February 6, and another one on February 13, the same amount, and that $1,000,000 was repaid on March 20, 1923. On October 18 there was a loan of $500,000, on October 24 another of $500,000, and on October 26 another of $200,000, and the entire $1,200,000 was repaid on December 1, 1923. The rate of interest on those loans was six per cent less two per
1122 cent on account of monthly payments. 5.88 is what it would net. These are advances that have been made to the A. T. & T. Co. in connection with the use by them of our temporary surplus funds. You will notice the February loan was repaid at the end of March, and the October loans at the end of December.

Now, in addition, from the proceeds of our bond issue of 1923, there were advances made to the A. T. & T. Co., and arrangements were made so that the Chicago Telephone Company bonds which matured December 1, 1923, which were presented for payment before maturity, would be paid by the A. T. & T. Co. out of its advances; and that they would then present those bonds on our behalf to the trustee, and with-

draw from the trustee, United States Treasury Certifi-
1123 cates which we had deposited with that trustee to safe-
guard the payment of the bond issue, and then they would dispose of those treasury certificates and would then accept the proceeds as a further part of the loan. It was really a general loan of approximately $11,000,000. It started out with an advance in the last part of June of $11,278,020.66, and there were numerous transactions during June, July, August, September, October and November, and the loan which was repaid on December 31 was at that time $11,124,796.52.

The rate of interest on the money which the A. T. & T. Co. had was the effective rate of interest on our bonds, which was 5.53 per cent. The paper I have shows the details of that transaction.

1125 (Paper marked for identification as City's Exhibit 14.)

1126 "Mr. Bangs: It is understood the cross-examination is on working capital.

"Mr. Haight: That is what my cross-examination has been."

In the same year the A. T. & T. Co. advanced the Illinois Bell, along the same line of transactions, on March 30, $800,000; on May 4, $850,000; on June 4, $1,000,000, and that was all repaid by us on June 30, $2,650,000. Those are the only items for that year where the advance was made by the A. T. & T. Co. to the Illinois Bell.

1127 We did not borrow any money from local banks in 1923. On loans made by the A. T. & T. to the Illinois Bell, the interest was 6 per cent minus 2, or an effective rate of 5.88. That was separate from the other loans.

226 WILLIAM F. SLOAN, recalled:

Direct Examination by Mr. Bangs.

227 In an affidavit filed herein on the application for a temporary injunction, I used an allowance of 12% for additional overheads that had been omitted from the books in order to determine the true original cost. That 12% at that time was my best judgment, and was in accordance with the amount allowed by the Commission in their order for the same item that was allowed on the cost of reproduction. However, after further investigation I felt that that was too much; that the books did not disclose that much, and that the amount is more nearly equal to that which the Commission had allowed in their original cost finding, which was five
228 million dollars. My position is that five million dollars will reflect the overheads in accordance with the present bookkeeping practice of the company. I think there would be additional items which they have not capitalized that would increase that; but to make the original cost reflect the overheads as they are now being kept, I think five million dollars would substantially cover that item.

416 *Cross-Examination by Mr. Haight.*

As to the re-use of property it is my understanding that in the case of telephone instruments, that the instru-
417 ments are re-worked and then put back into service. As I recall, certain parts of the plant, like telephone switchboards, have always been retired at their cost as nearly as can be estimated. In the case of poles they have used a number of different retirement units, changing the retirement unit from time to time so as to more nearly adjust it to the average cost of each pole as it stood on the books of the Company. Those units have been varied from time to time.

418 I am sure that a private branch exchange switchboard is retired at as nearly its original cost as it is possible to
419 determine. I think in some cases it is necessary to take an average price of a number of boards of that particular

type. They may not get the exact dollars on the particular board but they will get the average price of boards of that type. If the situation exists that retirements made from 1912 up until December 31, 1919 were made on the basis of 1912 costs, as far as it affects my results, my reproduction appraisal ought to be considerably higher. My index factor
420 on retirements would have raised those retirements to a greater extent than on the other assumption, that some of the costs would have been higher in that intervening time.

Taking your assumption that a switchboard is retired at its original cost of $200 and put into Supplies Account at the current market price of $400 and used later in the plant at said current price of $400, your deduction, that there would be an inflation of the capital of $200 and also depreciation reserve of $200, I do not think is correct. I do not think
421 it results in inflation because, if that is the current price (I am not answering definitely because I do not know the price of that particular item) but if it is put back in capital at a higher price, it represents the cost of a new board. In arriving at the depreciated value, probably greater depreciation can be taken off that than an entirely new board. However, as a matter of fact, those boards are all re-worked when they are put back. They are not put back as they were taken out.

Assuming that the practice were followed of retiring from 1912 until December 31, 1919, on the basis of 1912 costs, my reproduction figure would not have been lower, had I taken that into account. I do not know what the facts are about
422 it off-hand because I have not my notes, but assuming it was taken out at the 1912 level, it would have been necessary to apply a higher index factor to the retirement to raise that to the 1923 level than it would have been necessary if some of them had gone out at a higher level; that is, assuming your premise is correct, I would have taken out too much in my retirement. If that were a fact, there would be some error in my reproduction figures, but I do not say that is what we did. I am starting from your premise which I think is in error.

I have no doubt that employees have failed to report property retired or abandoned and that, as a result, estimates of original costs or of property are retired sometimes too low.

On the other hand, I think probably the reverse has been
423 true. No procedure of this kind is one hundred per cent perfect. The endeavor of the Company is to have these things as nearly correct as is humanly possible to do. Errors may creep in on both sides. I have no doubt they have. Very probably certain items would not be reported, while the main things would be reported for retirement. I think you are raising a sort of academic question. As a practical matter I don't think it amounts to anything and as a compensating
424 matter I think errors can be made the other way. I am not saying errors have not been made in the accounts. I think, if you want to determine how accurate the accounting procedure is, you had better ask someone familiar with their actual accounting details.

428 Speaking of original cost, the additional overheads are $5,000,000. Since 1920 the Company has recorded against the construction costs in the fixed capital accounts amounts for commercial and traffic engineering as well as for the plant and the general engineers. In general, before 1920
429 it recorded only the plant engineering costs. It is not true that these costs are reflected during the latter period here under inquiry because the engineering is done on a better basis and things are done that were not done at all during the earlier years. No part of the commercial and traffic was charged to construction in these prior years.

430 I wou'd say that if engineering has been refined and developed in the later years that it would have taken more engineering in the earlier years than in the later because they would, in the later years, have known how to do their job better. I think the reverse must have been the situation.

431 It is not a correct assumption that the reason that there are no charges there in the earlier years is that they did not have anything to charge for. They actually had

those expenses. They are just accounted for in a different way. At that time they had the services of Mr. Wray, who was a very distinguished engineer. They knew what they were doing even in those days.

432 I would like to make one statement. I reread my testimony about these overheads that I made, in which I stated that $5,000,000 was an attempt to find out what the same accounting practice that the Company has now would have given if it had been carried over those previous years. Now that is not exactly what I meant to say because the Company does not charge insurance or taxes to construction, and in giving the figure of $5,000,000, I intended it to cover that item; so my previous testimony was not very clear on that point.

433 As to my item of taxes, I used the data I acquired as of 1923 only as to the tax rate. Possibly, although I don't know about that, much of this property was constructed during periods when the tax rate may have been much lower than it was in 1923, but this is based on the 1923 rate.

Engineering is an item included in the $5,000,000 item of omitted overheads. It is true that the services the Company receives from the A. T. & T. are in a very large part engineering services. If you try to build this plant with not any of the engineering coming from the A. T. & T. Company, this would not cover it in the slightest degree. This item is simply additional engineering from that received from the A. T. & T. Company.

Re-direct Examination by Mr. Bangs.

434 What I am primarily doing as to the amount of additional overheads that should be added on this original cost estimate is to accept the Commission's figures, although I think it is a minimum figure if you consider all the elements that should be considered in there.

460 U. F. CLEVELAND, resumed the stand:

Direct Examination by Mr. Bangs.

The uniform system of accounts went into effect January 1, 1913. Prior to that the accounting rules of the Company had been substantially in accord with the uniform system of accounts. I believe the books of account of the Company have been kept in accordance with the uniform system of accounts since January 1, 1913. The Company has kept a complete and separate set of books of accounts since 1908 showing the revenues and expenses of its Chicago business. That separate set of books and accounts has also been kept in accordance with the uniform system of accounts.

461 The cost of the physical property of Illinois Bell Telephone Company in the City of Chicago as shown by its books and records on June 30, 1923 was $95,820,390. On December 31, 1923 it was $100,957,962. The amount of construction work in progress in each case is included in the figures which I gave. On June 30, 1923, plant and equipment in service was $95,626,014; construction work in progress $194,376 and total physical property $95,820,390. On December 31, 1923, plant and equipment in service was $100,145,419; construction work in progress was $812,543 and total physical property $100,957,962.

462 I have an opinion as to whether the property shown on the books of the Company as equipment in service on those respective dates was used and useful in the Company's business in the City of Chicago. My opinion is that it was used and useful.

"Q. Will you state please, Mr. Cleveland, the net additions to plant and equipment in service and the total physical property of the Company for the years 1924 to 1928, inclusive, as shown by the books and records of the Company?"

"Mr. Haight: I would like to preserve an objection to that, if the court please, for the reasons given in our opening statement. That it is after 1925."

For the year 1924 the net additions to plant and equipment in service was $10,842,207 and total physical property $12,129,909. For the year 1925 plant and equipment in
463 service was $15,505,841 and total physical property $14,795,892. For the year 1926 plant and equipment in service was $14,422,373 and total physical property $13,807,356. For the year 1927 plant and equipment in service was $14,837,396 and total physical property $19,254,377. For the year 1928 plant and equipment in service was $14,495,754 and total physical property $12,579,249. The total net additions to the plant and equipment in service of the Company in the City of Chicago for the year 1922, as shown by the Company's books and records was $8,292,869. The total net additions to plant and equipment in service from December 31, 1922, to June 30, 1923, as shown by the Company's books and records was $9,938,198.

The total physical property of Illinois Bell Telephone Company, used and useful, and rendering service in the City of Chicago on December 31, 1928, as shown by the books and
464 records of the Company for plant and equipment in service was $170,248,990, and for total plant including construction work in progress $173,524,745.

Plant and equipment in service covers the land and buildings and central office and subscribers' equipment and all the lines which have been completed and are available for subscribers' service connections, and are being used and useful therein.

Construction work in progress covers similar property that is in process of construction but has not yet been completely available for subscribers' service connections.

I have an opinion as to whether the books of the Company correctly set forth the various items I have testified to.
465 I believe they do. Exhibit marked for identification as Plaintiff's Exhibit 4 was prepared from the Company's books and represents for each of the years the plant and equipment in service and the total physical property which

includes construction work in progress. It shows the total revenues and expenses for each of the years and the balance available for return on the investment, and the percentage which that balance gives of the total physical property. It also records the amount which the Company has reserved for possible refunds in connection with this case, and the amount available for return if those amounts should be deducted from the amount shown on the books, and the percentage which these net amounts are to the total physical property. The various total revenues and total expenses are actual revenues and expenses of the Company as shown by its books.

466 The item entitled "Amount Reserved for refund under temporary injunction order" is the amount actually reserved by the Company for refund under that order.

I believe the items herein set forth to be true and correct.

(Plaintiff's Exhibit 4 offered and admitted in evidence.)

467 With reference to exhibit marked for identification as Plaintiff's Exhibit 5, the first and third money columns are from the books of the Company. The first column represents revenue and expense items for the first seven months of the year 1923, and with those figures as a basis, a computation is made of what the annual figures for the year would be. Those figures are set up in the second column, and for comparison the actual figures for 1923 as shown by the books appear in the third column. The computation in the second column was used to compute the amount of return which we would obtain from a year's operations on the same basis as for the first seven months of 1923. They were used in the affidavits originally filed by me on motion for tem-
468 porary injunction. The third column shows the actual expense of the Company in the year 1923 as compared with the estimated expense computed upon the first seven months of operation.

The starred items on Exhibit 5 represent some items of revenue and expenses applicable to the whole company, in-

terest items very largely, which are apportioned to the City of Chicago on the basis of the average plant in service in the City as related to that for the whole company.

It is interest revenues from various sources from general funds or any amount which might be available for temporary loan.

469 I have not deducted any interest charges in this statement. I included interest receipts because the amount available for return was computed on the basis of the entire physical property which included the construction work in progress. For that reason the revenue from the interest capitalized was included in this statement. There are also some small items of bank interest.

The starred items for "other expenses and deductions" include uncollectibles, rents, and miscellaneous deductions from income.

I believe the information and data set forth in Plaintiff's Exhibit 5 to be true and correct.

(Plaintiff's Exhibit 5 offered and admitted in evidence.)

471 *Cross-Examination by Mr. Haight.*

472 As a practical answer I would say that I have the basis upon which to testify that I believe that this property appearing on the books of the Company is used and useful. Necessarily I cannot have seen every pole and every piece of property myself but I have the certificates of the people who constructed this property that it was constructed for use.

In answering the questions I have answered here, I intended to give testimony as to the fact as to whether it was used or useful.

473 During the period of years which I have been connected with the Company I have been in various capacities with the Accounting Department, both in the Revenue branch and in the General Accounting. It has always been

in connection with accounting work. I have been connected with the Company since 1892. I have not, during that time, done work of that nature for any concern other than the Illinois Bell or the Chicago Telephone Company as it was called prior to acquiring its present name. In a very minor way I had a connection with the accounting work of the Central Group. I think the answer should be that I had practically no connection with other companies than the Chicago Company.

As to my opportunities that enable me to give testimony here as to the nature of the property relating to its being
474 used and useful, outside of my work as Accountant, I will instance one case. We have included in our plant, for example, the building which is known as the Franklin Building. I have been all through that. I know that it contains a great deal of Central Office equipment. I have seen it in operation. I know what the property is used for. I can mention numerous other cases of that sort where I have seen the property and know it was acquired for use and has been used. However, my answer is based primarily on the fact that for each construction project costing $2,500 or more I have certificates of the plant people who built the plant as to why it was built and what it was to be used for. Generally speaking, mine is the Accountant's knowledge. I am trying to reflect here what is shown by the books of the Company.

475 The Company's records indicate that the property was used and useful as of June 30, 1923. My answers have been based on the proposition that the Company's books, as far as my testimony is concerned, relate only to used and useful property.

478 The Company's records and books, concerning which I have been testifying, contain evidence as to whether the property here in question is used and useful. All of it, one hundred per cent, is used and useful as per the books of the Company. In our accounting system, plant that is not used

and useful is written out of the plant after it ceases to
479 be used and useful. It is discarded. It is written out
because somebody reports the fact. The very fact that it is discontinued is evidence that it has ceased to be useful.

I will have to say, with respect to an individual pole, there is no way that I can check on it, but with respect to the ordinary discontinuances of plant, these are all covered by specific estimates that include with the proposal for the con-
480 struction of new plant the disposition to be given of any
existing plant which, with the operating of the new, ceases to be used and useful. Assuming that the Telephone Company has a building with an exchange in it and, for some reason, everything is taken out and it is no longer used, if the building and land is intended to be used for telephone purposes it is left on the books of the Company. If it is not intended to be so used, it is retired. The Accounting Department does not pass upon the fact as to what the future intention is, but if the Accounting Department received a report that the entire contents of the building had been removed and did not also receive a report of a discontinuance of that property as used and useful, it would ask for and get a report. Upon receiving the report, whatever the report might say would be entered on the books, subject always to our right to question the information that is given to us. I might say
this, that we have cases of that sort and wherever those
481 cases exist the plant is written off from these accounts.
Naturally it is carried on our books until we dispose of it but it is written out of the plant and equipment in service as covered in these figures which I presented this afternoon. It is carried under Miscellaneous Investment Accounts. At the end of June, 1923, we had, for the Company as a whole,
$74,946 of that kind of equipment. Practically all of it is
482 land and buildings. I know that the $74,946 has not been
included either in the book cost or reproduction figures offered in this case.

I am familiar with the method of handling plant property

that is re-used, taken from one place of use and put in another place of use. As to the accounting methods, there were some cases where property was moved from one location to another, cut out of service in one location and installed at another, and the practice there was simply to charge the cost of the move in our plant expenses. There were other cases. I presume you are referring to our handling of stations. The

stations, when they were discontinued, were written out
483 of the plant at their average cost. Then those stations

were returned to the warehouse and reconditioned, put into shape for use and were re-used at a new location. Now the accounting in that connection was that the salvage value on that instrument was the current value and when re-used was in substantially new condition and went into the plant at the current cost. To some extent that practice applied to other items of property but practically it is a condition that applies to station apparatus. To some extent I believe it applied to such items as cable. There is a minor amount of that involved. It is very largely subscribers' station

equipment.

484 The items were removed from the plant at a value

estimated to be their original cost. It has always been the practice to remove them at the estimated original cost. I believe it was the practice from 1911 up until the thirtieth of June, 1923. Our practice has always been to remove plant at its estimated original cost. If the item is re-conditioned, the principal cases of that sort were station apparatus items, after they were put in first-class condition went back into

the plant at the current cost of a set of instruments. The
485 cost of putting them in condition is a repair cost just the

same as if they had not been removed from the plant, and goes into the repair expenses. Subscribers' station equipment is made up of innumerable small parts. Oftentime all that is necessary is to replace two or three of those small parts with new ones and then the set is practically new. The replacing of those few small parts is charged to

repair expense, then the instrument is a new instrument, just of the same character as any that would be furnished on a new application for service. They are used interchangeably, those freshly out of the factory and those that are out of the factory after this complete restoration. When it is taken out of service it is charged to depreciation reserve and credited to the capital account at the estimated original cost. Then it is charged in our supply account at the value which was
486 given it on a salvage basis. It came out of the supply account at the same price at which it went in, the current cost. The displacement and salvage items were reflected in depreciation reserve.

487 Assuming Article X costing in 1914—$2.00, coming out in 1918 and being repaired at a cost of five cents, and being put back into plant in 1918, at which time the current price of X is $4.00, under our system of accounting X would appear in capital account in 1918 at $4.00. The same thing would apply if it came out at $2.00 and went back to fifty cents. Then there would be fifty cents in the account. The estimates of original cost for property taken out were made on various bases. In some cases they are determined by dividing the total investment in the class of property by the total number of units in the property. I cannot answer offhand how long that has been the practice and to what account it applies. I would have to get that information
488 from our records. Then we had estimates of the original cost made by the plant and engineering people separately for the removal, based on their records of installations or their knowledge of the prices of the various items involved. I can't tell you the items as far back as from 1911 to 1919 without refreshing myself and referring to the books.

490 The result of the practice, speaking of it generally, is not necessarily an inflation of fixed capital and also an inflation of the depreciation reserve. I said in one of my answers that situation holds whether the current price is greater or less than the original price. During the period being dis-

cussed there was a considerable period of rising prices. I would not call it an inflation of fixed capital and also an inflation of the depreciation reserve but simply a method of handling the accounting which we believe is justified and is
in accord with accounting rules. It is covered by the
491 system and is the rule. Our interpretation is that it does.

There is a stipulation covering that specific item entered into between the accountants of the Interstate Commerce Commission and the accountants of the Bell Telephone. I have never studied any other methods to see whether or not the
book costs can be inflated under our system of account-
492 ing. That method has been agreed to by the Interstate
493 Commerce Commission. If property appears in the capital account of the Company that has been retired or abandoned and no report has been made to the accounting department, it is a fact that that property would still appear as an asset, though in fact it is non-existent as an asset. As a general proposition that would be true. As far as the books of the Company are concerned, such property, even though it might not be in existence, might appear as used and useful property for a time. There have been cases, I am perfectly willing to say, where entries have been deferred just because of a situation such as suggested, but those entries
were eventually made at the time the complete check
494 showed the error. We would not be human if errors did not exist.

514 My figures take plant and equipment in service at the
515 end of each year. (Plaintiff's Exhibit 4.) The return upon them is not figured upon the average base for the year. In our regular practice to get the average base for the year we use the average of the monthly average of plant instead of taking the property at the beginning of the year, and at the end of the year adding the two figures and dividing by two. If I had used the average base for the year in Plaintiff's Exhibit 4, the rate of return would be somewhat higher. During all of the period that we are discussing the company

charged interest upon the construction work in progress.
516 Construction work in progress is included in the figures in Plaintiff's Exhibit 4 for each of the years in question. The interest which is capitalized appears in the revenues of that year. I used the figure for the end of the year instead of the average plant and equipment in service during the year because that is the usual method of setting up exhibits of this sort, and I think it is more nearly right, for the purpose of a rate case, for the return for the year to be computed on the total amount of plant at the end of the period.
517 The interest item is included in the fourth item in Exhibit 5 entitled "Non-operating revenues." The en-
518 tire amount of interest revenue included for the year 1923 is $162,708. The net additions to the plant during that same time were $9,024,000. As of June 30, 1923, there was $60,000,000 of issued stock, $4,044,640 of installments of unissued stock and funded debt at $50,310,000; that is
519 for the entire company. In 1920 we began charging interest on construction work in progress. We also began including a portion of the general expense of the com-
520 pany applicable to construction in the construction accounts. I believe that during 1920 the overheads that were included were charged as operating expenses, and the adjustment was made for the year in the month of December by which those amounts were transferred to the various plant accounts. I testified before the Commerce Commission
521 in case 11894. I haven't any recollection of just what I said.

We make the distinction to the best of our ability between expenditures that are for property and the charges that are made for the operating expenses of the company. There are no exceptions to that. We have not charged anything to construction accounts with respect to taxes and insurance for the years 1923 and 1924. Those items ap-
522 pear among the operating expenses, and that has been true at all times during the period we are inquiring about

down to June 30, 1923. I am acquainted with the general relationship under the 4½% contract. I have no doubt that the services furnished under that contract are of assistance in connection with construction of property. None of the
523 amounts paid to the A. T. & T. Company under the license contract have been capitalized. The books for the general accounts of the entire Illinois Bell Telephone Company are kept here in Chicago. For one division of the company the revenue accounts are kept in Springfield. The plant accounts are kept here. There are now two divisions of the plant accounting division, one for the state area, and one for the Chicago area. During 1923 it was a consolidated de-
524 partment. It is under the jurisdiction of the plant superintendents and is located at 111 North Canal Street, in Chicago. The revenue accounts for the Chicago division are kept in the building at the southwest corner of Franklin and Washington Streets, and the suburban division at 111 North Canal Street. The buildings referred to
525 are entirely rented quarters. The general accounting department is located in the general office building. The general office property is included in the figure of $100,145,419. The detail of the item $100,145,419, plant and equipment in service at the end of the year 1923, is as follows:

526

For land and buildings	11,108,772.24
For central office equipment	28,358,075.08
For station equipment	20,463,361.27
For exchange lines	35,751,594.64
For toll lines	2,030,223.22
For right of way in connection with the lines	261,704.14
For interest during construction	644,082.79
For miscellaneous construction expenditures	17,858.97
For general equipment	1,509,746.50

The eleven odd million for land and buildings is the
527 book cost of those properties in Chicago. There are some small parts of the buildings that are used for hous-

ing those employees engaged in the state area operations. Most of them, however, have been in rented buildings. There are some employees in the general offices who are employing their time in connection with business outside of Chicago, throughout the state of Illinois, as well as in Chicago. There has been no transfer of the investment applicable to outside of Chicago.

528 In my Exhibit 5 the total exchange revenues for 1923 were $36,342,226. I obtained this amount from the books of the company. It is made up of the charges against our subscribers for exchange service in Chicago. It is detailed by account numbers as shown on page 60 of plaintiff's Exhibit 3, as follows:

529

Account	500, subscribers' station revenues.	$32,927,998.11
"	501, public pay station revenues..	3,143,498.30
"	504, private exchange lines.....	111,544.41
"	505, minor rents of exchange plant	159,184.93

There is no item under account 506 for other exchange revenues, nor under 503. Revenues from calls to nearby cities, like Oak Park and Evanston, are included in the toll revenues. All of the exchange revenue from subscribers lo-

530 cated in Chicago is included in this revenue; none of it is allocated to other exchanges. Account 501, pay station revenues, is the entire amount collected from pay stations for exchange service.

We speak of toll and long distance generallly, as meaning by the latter term those tolls which go partly over our own lines and partly over the lines of the American Telephone

531 and Telegraph Company. The item "toll revenues," appearing on plaintiff's Exhibit 5, includes those revenues as set up in the Interstate Commerce Commission system of accounts. Account number 510, "message tolls," shows $2,711,973.78. I would have to make an analysis to determine how much of that is long distance toll and how much is local toll. I haven't the figures before me.

532 The basis of allocation of the local tolls is this; the originating point, which in this case is Chicago, is cred-

ited with what is known as an originating commission, and the balance is divided between Chicago and the state area on the basis of mileage over which that message travels. There is also the incoming business to Chicago, for which Chicago receives a credit on the same basis; the originating point receives its originating commission, and the balance is divided between the area in which the message originates and Chicago on the basis of the mileage haul. For Chicago originating commission we use the basis which is followed in our settlements with connecting companies. A study is made of all
the business originating in Chicago. The commission is a
533 graduated amount, varying with the amount of the toll
message. We use the basis which holds in our settlements with connecting companies under contracts approved by the Commission. I will have to modify that answer. It is our present basis. In 1923 we assigned an originating commission of 15% to the originating point. At a later date we changed to the contract basis.

Speaking of 1923 with regard to the settlement with the A. T. & T. Company, the Illinois Bell Telephone Company receives a commission of seventeen cents on each call originating in Chicago. In addition it receives an amount computed on the book value of the property used in Chicago for long lines business by the application of certain annual charge per-
centages, that being the equivalent of a toll pro-rate. At
534 the date of this statement, 1923, the company operated all
the long lines business in Chicago and billed the A. T. & T. Company for the cost of that operation. That amount, however, does not appear in the revenues for that period. It is deducted from the amount of expenses. That 17 cents is made up of 5 cents for every completed message and 12 cents for every message which turns out to be collectible. For illustration, on a message from Chicago to New York in 1923 we got 17 cents. That was all that was identified with that particular message, but for this plant of ours in Chicago used and

held for use on all long line business, we obtained a return
535 which was based on the book value of the plant and the application to that book value of certain annual costs including a 10% return. The book value means the total book value of this plant which is separately recorded on our accounts. We applied a percentage for interest and maintenance, depreciation, insurance, and taxes, and so on, which percentage included 10% for return. We kept it all. It was our pro-rate, or equivalent of a pro-rate. On the message from Chicago to New York the A. T. & T. received all but the 17 cents commission, which we retained, and from the amount which they received they paid a portion for this pro-rate. The
536 10% was paid by them to the Illinois Bell Telephone Company. It was not paid directly, but was credited on the Illinois Bell account with the A. T. & T. The A. T. & T. had a charge against the Illinois Bell under the contract and ap-
538 plied the indebtedness under that contract. The A. T. & T. gives the Illinois Bell credit for 10% return and all maintenance, taxes and depreciation. The plant devoted to this long distance business is a matter of record in our plant departments; as those items of lines are built for long line properties or as they are deducted. We do not determine that
539 in our accounting department. The superintendent of the plant department determines that, and his decision is the basis for the entries in our books. It is an operating mat-
541 ter. Circuits are furnished at the request of the traffic department.

Assuming that in May, 1923, there was charged to capital account as a net addition $4,483,337 for new machine equipment, and part of that went into service in June and part of it into service in August, and assuming there was manual
542 equipment retired in June to the amount of $305,000, a considerable amount was added to the capital assets in June that was not in use until some time later. The displacement figures of a manual unit retired in June of 1923 of $305,000 and the retirement in August of 1924 of $172,364 are sub-

stantially correct. If we had made the complete displacement which ultimately was made in the June account, the cap-
543 ital account would have been reduced by approximately $172,000. I will say that it sometimes happens that where new installations are made the old equipment is retired, but not written off until some considerable time later. The question is whether it is proper that it is not written off until a later day. I would not want to agree that it was.

546 I cannot give you from memory what officers in 1923 and what departments devoted their time to both the Chicago area and the other business of the Illinois Bell Telephone Company. I can give you an idea of the general class of officers. The wages and expenses were allocated or apportioned between Chicago and the rest of the state. In 1923 I think the general method was a basis of gross revenues. We had used both that method and the method of total
547 other expenses.

The method of computing the amount of possible refunds, shown in plaintiff's Exhibit 4 as amount reserved for refund under temporary injunction order, was as follows: We applied to the average stations of each year involved the amount which was estimated at the time the order was issued as the reduction in average revenue which would follow. From that amount we have deducted the items which we would not have to pay if those amounts were refunded, such as the license payment to the A. T. & T. Company and the franchise payment to the City of Chicago, and the income tax. We did not give any weight to the possible increase in usage by the subscribers, because this rate had not been put into effect, and therefore any changes in usage would not be apparent. We did not take into account the possibility that we might have more subscribers in those particular classes of service on account of the lesser rate.
548 We did not take into account the estimated uncollectible accounts, because they are provided for in the regular accounts. It would be a comparatively small factor. We have all the records since the injunction was granted for each sub-

scriber's account. There is nothing in here for the interest that we might have to pay on these refunds. It is just the amount allocable to each subscriber. Possibly if numbers of the subscribers would not apply for refunds, that would take care of the interest. From all the attempts I have made
549 to verify these figures, I am satisfied they are right.

I do not know when the first panel type office was installed. I am told that it was in May, 1923. There undoubtedly was special training of employees to meet that change in the situation. There is probably a little more training at the first installation than there would be at subsequent installations. I believe that would have been go-
550 ing on for some time prior to the installations made in 1923 in preparing for the installations that came along.

The exhibit marked for identification as City's Exhibit 4 is the record from the books for the three periods stated.
562 The exhibit marked for identification as City's Exhibit 5 is the Company's telephone operating revenues for the year 1923, as shown by the books, and the exhibit marked for identification as City's Exhibit 6 is the Company's telephone operating expenses for the year 1923. The City's Exhibit 7 is the Company's income statement for the year 1923. It is for the Chicago exchange in every case.

Local exchange service is the service furnished by the use of the exchange facilities. It includes service from one
563 subscriber to another in the same exchange, and in the instant case within the limits of the City of Chicago. It includes the messages described, that is the service of furnishing these messages to and from the subscribers within the area, and it covers all service which is furnished by the exchange facilities.

564 The toll service in toto which includes local toll service, covers the service between subscribers in different exchanges going over the established toll lines of the Company or the connecting companies.

Local toll service excludes the service furnished in con-

nection with the lines of the American Telephone and Telegraph Company, in our common language. It is not a proper definition of local toll service to define it as service from a subscriber in one exchange of the Company to a subscriber in another exchange of the Company or one of its connecting companies.

566 Message tolls (item 510 on City Exhibit 5) are the revenues derived by the Company from use of its toll
567 lines for messages going over those toll lines. They include in part local toll service, as I use the term. When I use the term "local toll service," I mean the service going entirely over the toll lines of the Illinois Bell Company and its connecting companies. The common term "long distance tolls" is the same thing, except that it is the Company's proportion of business going over lines partly owned by the American Telephone and Telegraph Company. The two items I have mentioned include all of the items that appear in the Account 510, message tolls.

568 Local toll service includes the revenue from those toll messages to any of the Illinois Bell Telephone Company's connecting companies, excepting over the lines of the American Telephone and Telegraph Company. That would include what I understand you to mean by this so-called privileged business. In this sense I consider the Wisconsin Telephone Company as a connecting company.

There are now five regularly established operating divisions of the Illinois Bell Telephone Company property. There were three in 1923. Those in 1923 were known as Chicago, Suburban and Illinois Divisions. The Chicago Division covers the City of Chicago; the Suburban Division the counties immediately surrounding Chicago—I think I can name them: Lake, DuPage, Kane, McHenry, Will, Grundy and Kendall; and Lake and Porter Counties in Indiana; and the Illinois Division includes the balance of the State of Illinois.

569 The general term "long distance service," is used in covering messages for service going partly over the lines

of the American Telephone and Telegraph Company and partly over our own lines. The term "toll to privileged points" would be to points within the operating area of other associated companies and going over the lines of the other associated companies as well as our own. That excludes going over the line of the American Telephone and Telegraph Company.

The originating commission is the amount which the originating point receives for its terminal service in connection with toll business. In certain cases that is the 17 cents I told about the other day.

570 Prorating in connection with long distance toll service is the apportioning to the various companies or areas involved of the amount remaining after the originating point has received its originating commission credit.

I should say a broad definition of "toll board" would be the boards into which the toll lines run.

The figure $100,145,418.85 for "plant and equipment in service" (City Exhibit 4 for identification) on December 31, 1923, is exclusive of the construction work in progress, as shown by the books, and as reflected in the total of the items shown in these exhibits.

571 The figures for January 1, 1923, of $85,687,815.86 and for June 30, 1923, of $95,626,013.95, are in both cases exclusive of construction work in progress. If you include construction work in progress, the amount shown for each class of plant represents all of said class of plant owned by the Illinois Bell Telephone Company and located in the City of Chicago on those respective dates. It does not include any located outside of the geographical limits of the City of Chicago. There is some incidentally used for facilities outside of the City or for operations outside of the City; for
572 example, the general officers who have jurisdiction over all the properties are housed in the general office building.

Looking at the items on City's Exhibit 4, I cannot tell you exactly what items are involved in this incidental use in con-

nection with the operating areas outside of Chicago. The exchange right-of-way and toll right-of-way is used exclusively in the service of Chicago. There is some element of this incidental use in connection with the land and buildings.

The use of land and buildings is not exclusive. Central
573 office telephone equipment is not used exclusively for Chicago. The other equipment of central offices is not used exclusively for Chicago. Station apparatus, station installation, interior block wires, private branch exchanges, booths and special fittings, are used exclusively for Chicago. I am uncertain as to exchange pole lines. It is possible that some of that is used in this incidental outside service.

574 That same answer will apply to all of the exchange lines items. I am reasonably sure that some portions of the exchange lines are used in this incidental service for outside areas. That would apply to pole lines, aerial cable, aerial wire, underground conduit, underground cable and submarine cable. Toll pole lines are used exclusively for Chicago, and the same is true of all items of toll lines. As to whether toll pole lines, toll aerial cable, toll aerial wire, toll underground conduit, toll underground cable and toll sub-marine cable is used exclusively for the local exchange service in Chicago, I think I will have to answer in this way; that the separa-
575 tion between toll lines and exchange lines is not one which is absolutely correct. For example: there may be on a toll pole line a circuit used for exchange purposes. The classification of the toll line is to toll pole line, whereas the classification of the exchange circuit on that toll line would be exchange wire, but in the broad sense in which these classifications are made, there is no use for exchange service of the plant classified as toll lines.

"Question: Am I safe in assuming your answer to be in respect to those items just mentioned, that they are not used save for local exchange service in Chicago?

"Mr. Bangs: I object to that question, Mr. Haight, because I fear that you are getting again into the interstate

separation, on which the witness has not testified, and therefore is not subject to cross-examination."

576 These exhibits (City's Exhibits 4, 5, 6 and 7 for identification) were produced by me. I made these yesterday at Mr. Haight's request, and furnished them to him.

577 (Objection overruled, to which ruling of the Court the Plaintiff, by its counsel, then and there duly excepted.)

The answer is no, you are not.

I think the answer is yes, if the last clause of the question is changed to "are used otherwise than exclusively for local exchange services in Chicago."

579 The items: exchange right-of-way, station apparatus, station installation, interior block wire, private branch exchanges, booths and special fittings, are used exclusively for local exchange service in Chicago. By "exclusive use" I mean that it is used exclusively for the purpose of developing the revenues classified as exchange revenues.

580 The telephone is used for telephone service. If I have a telephone on my desk and call up New York, that is not exclusive telephone service in Chicago.

582 The item of office furniture and fixtures is not used exclusively for local exchange service in Chicago. Some of these higher officers have duties apart from service in Chicago.

583 I cannot answer the question as to whether general store equipment, stable and garage equipment, and tools and implements are used exclusively for local exchange service in Chicago, without some investigation. I mean by that I do not know at this time. Executives of the Company and their staffs that administer not only the affairs of the Chicago exchange but of the balance of the Illinois Bell Telephone Company's properties use the lands and buildings.

As to whether within these listed buildings are also the executive officers and their staffs whose sole functions with the Company relate to the administration of the affairs and

property of the Company outside of the City of Chicago, I cannot answer definitely as of 1923.

593 There was some incidental use of buildings, containing central office equipment used in furnishing service to certain subscribers just outside of the border line of
594 the City of Chicago. The central office was in the City of Chicago, but on account of our ordinance limiting operations within the City of Chicago to the geographical boundary, we had to establish a separate potential office or exchange outside of the limits.

I can explain only in a very broad way the reason for the increase in central office equipment, Account No. 221, shown on City's Exhibit 4, from $19,554,000 on January 1, 1923,
595 to $26,245,000 on June 30, 1923. It is additional central office equipment put into service during that period. In a large degree the offsetting amount appears in Account 104, construction work in progress, and shows a decrease of substantially $6,000,000 in the same period. I am not clear as to the amount, but it covers some of the machine switching equipment. I cannot tell without checking up what central offices were cut into service between January 1 and June 30, 1923.

596 I don't think I can answer the question whether there are any items of central office equipment other than the inter-office trunk equipment that were used exclusively in local exchange service to Chicago users in 1923. I don't think it is answerable. It is not an answerable question.
597 The Illinois Bell Telephone Company furnishes one serv-
598 ice, and that is telephone service, and that property is entirely for the furnishing of telephone service to the subscribers of the Company in Chicago.

599 (Understanding that this witness' testimony does not cover the question of interstate separation. "The Court: Mr. Haight and Mr. Bangs have a distinct understanding about this examination. Let it go forward with that understanding.")

600 I think it is correct that central office telephone equipment is used for handling service that goes through Chicago to points beyond the City limits as well as long distance service originating and terminating in the City of Chicago, and also is used for local toll service originating or terminating in the City of Chicago, or going through the City of Chicago and originating and terminating outside of the limits of Chicago. It also includes service rendered to subscribers outside of the City limits of Chicago that goes through the Chicago central offices.

601 Undoubtedly in some degree the Chicago central office equipment includes equipment used for private lines to points outside of Chicago. Naturally, if a private line is partly within Chicago and partly without, the investment referring to Chicago is in the Chicago investment and the revenue is divided between the areas involved in furnishing the service.

602 I think the case that you referred to the other day, with reference to manual central office telephone equipment replaced during the year 1923, and not yet charged off the books of the Company, was a $172,000 deferred entry. I don't know of any others in the year 1923.

603 I do not know how much of the panel type equipment is included in my item of central office equipment for the full year 1923.

We claim all of the central office telephone equipment was in use. I want my answer with respect to that deferred displacement of manual office to be taken in connection with this answer, but so far as central office equipment in the City was concerned, it was all in use. I do not know what percentage of the switchboard positions in the central office were in use at the busy hour. I think likely it is ascertainable but I am not sure that records of that date are available.

606 I do not know what percentage of underground conduit in 1923 was occupied by cables. I think probably it could be computed from the records. I am not sure of that. I do not know what percentage of the subscribers' cable pairs were

in use at that time. I am not certain it is ascertainable, although I think likely. I do not know the percentage of inter-office trunk cable pairs in use at that time.

607 I think in all these cases we have some record of approximately the figures you ask about.

I do not include in station apparatus, the transmitter, receiver and induction coil. I am not entirely sure as to whether the station apparatus included in City's Exhibit 4 is used exclusively for the local exchange service. I think there may be some incidental uses. Of course in connection with all toll service from the subscriber's station, the station facilities are used. Whether it is used in connection with local exchange service and local toll service depends entirely on what your definition of local exchange service is. When you say "exclusively", I cannot carry in my mind every use to

608 which a station may be put. It is possible that some of it is used for private line service. Local exchange service, local toll service, long distance service and private line service are merely characterizations of our various parts of the telephone service with a more or less generally understood meaning. I must say with respect to every one of these items of equipment that there may be some incidental uses which I cannot think of at the minute, for various kinds of the subdivisions of service.

609 If we had a definition of just what you had in mind with respect to apportioning these various classifications, we could make a reasonable apportionment of some kind. If you ask four engineers to separate 100 per cent of something into five different parts, they are liable to use four different methods and get four different answers. As a matter of accounting, I think I would probably reach the same result as those four engineers. I think the same would be true with specific items of property like interior block wire, station installations, and so on.

610 With respect to whether any private branch exchanges are used exclusively in the Chicago local exchange service, my answer is the same that I gave with regard to sta-

tion apparatus. I said we could make apportionments if you would determine just what your definition of Chicago local exchange service is. Those switchboards are used in connection with every branch of service that we furnish.

611 The accounting classification of private branch exchanges, station apparatus, station installations, interior block wire, central office equipment, and other equipment of central offices, is exchange. I don't know of any segregation of these items in respect to the various services. I have never endeavored to make any. I cannot tell you and do not know whether there has ever been any segregation made of the percentages of use to which each of the items of plant appearing in City's Exhibit 4 have been put in each of these services. We have at various times records of messages originating at various places, for various purposes, but we do not maintain any constant record of things of that sort.

612 There are studies made at all times in connection with engineering private exchanges for hotels, or other services, studies made of use, and things of that sort. I don't know the basis of the charge to hotels for the use of the board.

619 The item of interest during construction is calculated as follows: on large construction jobs where a substantial portion of the amount is not put into service or available for service within a short time, the amount expended under those jobs is subject to an interest charge at the rate of one-half of one per cent a month, that amount being capitalized and added to our revenues. It represents a computation of interest on the funds of the Company used in this construc-

620 tion work. We base the computation or the amounts that are determined entirely by the application of this percentage. It is in accordance with the Interstate Commerce Commission's authority. We are using the funds of the Company which may not be entirely obtained from loans or the issue of bonds. It is very evident that there isn't any connection between those two amounts.

The construction work in progress account includes nothing except what has been paid for. The Company has the usual

arrangement for supplies. The Western Electric Com-
621 pany extends credit in the same manner that any other supplier extends credit. I think those bills are due in thirty days; thirty days are the terms on the purchases made from the Western Electric.

I will say again with regard to the interest charges appearing in the capital account, they represent with respect to these large jobs which are not completed within a few months, an interest charge based on the authority of the Interstate Commerce Commission covering the use of the Company's funds in that construction work. It has no connection with our paying our bills to anyone else, the collection of our revenues,
622 or anything of that sort. It is simply a use of the Company's money. That item is constant, being one-half of one per cent a month. It is substantially what the Company pays for money. It probably cost the Company about that amount to procure money in 1923, that is, about six per cent. It might have been a fraction less in 1923. I am not sure whether the Illinois Bell Telephone Company lent any of its money to the American Telephone and Telegraph Company or to any other part of the Bell System during the year 1923.

626 Item 510, "message tolls," $2,711,953.78, in City's Exhibit 5, is the company's revenue from toll service. I have not made the separation between local toll revenues and long distance toll revenue. With reference to local toll revenue, the practice is, from a study which is made periodically, that the originating commission involved in messages of
627 which Chicago is one terminal, is credited to the originating point and the balance is divided between the Chicago area and other areas on the basis of the mileage over which the message is carried. As an illustration, a message goes over our toll line plant within Chicago, and in our suburban division, and in our Illinois division. The Chicago area is given 15% originating commission and the balance of the amount collected for that message is divided between the three areas involved on that basis of the mileage haul in each area.

I could not give you what that division would be based
628 upon mileage on a message between here and Peoria. The originating commission for business between our own points is all on the same basis. On our business interchanged with other companies it is on the basis of our contract arrangements with those companies. I am speaking as of 1923. I am not sure whether it was 15% in Indiana at that time or not. I haven't the figures of the gross local toll business
629 originating in Chicago in 1923 with me. They were made available yesterday to Mr. Wray.

If the question is, Is there a specific amount credited to Chicago for the terminating business? the answer is that the originating commission which is computed on originating business is intended to cover the terminal charge for both originating and terminating business and the balance is pro-rated on the air line basis. Both incoming and outgoing mes-
630 sages are pro-rated. For points in the study period a record is kept of all the business originating and terminating at each of these points. The routing for the message is determined and measurements set up in the studies, and the division is made with respect to the business from each point to other points. There is no set period for making these studies. They are made as frequently as we believe that conditions have changed to the point that justifies new studies. They are rather expensive and take a great deal of time. I think the last study prior to 1923 made to determine the pro-rate arrangement was in 1921. I would not swear as to that. It might have been in 1922, and that was used up
631 through and including 1925. I do not know the answer, nor do I have any general opinion as to whether there is more plant and equipment actually involved in Chicago in a toll message between Chicago and Cairo than there is involved in Cairo respecting that message. I think that answer is obtainable with respect to an individual message. I never personally made a computation to determine the basis
632 for pro-rating prior to 1923. I haven't the information as to whether any adjustment was made in 1923, 1924 and 1925. I will have to get it.

The long distance portion of the message toll includes the amount of our commission on the long distance business and the equivalent of the pro-rate which, as I explained before, was computed on the value of the book cost of the plant in Chicago used for that line of business. The Commission
633 was 17 cents a message. The 17 cents is made up of two separate charges, one of 12 cents and another of 5 cents. The 12 cents was the amount originally agreed upon, and the additional 5 cents was later added to that commission. The 12 cents and the 5 cents is our commission for our service in Chicago in connection with this long distance toll. That is all of the services that are performed. I believe the 5 cents was actually set up for use jointly with the Illinois Bell Company of trunk lines and circuits from the exchange cen-
634 tral office to the toll switchboard. The 12 cents is for all the services that are performed within the exchange in connection with this long lines business. They are the accounting services and collecting and settlement services. I believe that is all. I believe the 12 cents does not cover the use of any part of the Illinois Bell Telephone Company's plant in Chicago. By settlement I mean preparation for settlement of this total amount collected. Specifically the 5 cents is for the joint use of circuits from the exchange
635 offices to the toll board, joint use for long lines business as well as for our other tolls. They cover only the use of the lines between the toll board and the central offices of the company. I do not know when the 12 cents and 5 cents charges were established. I can get those dates. We have no records of the cost for this specific period to the Chicago division of the Illinois Bell Telephone Company of each of the services for which the compensation is intended to be made in the 17 cent charge. The 5 cent charge is our remuneration for the use of the lines between the toll board and the
636 central offices, and is a revenue. The 5 cents and 12 cents provide the compensation for outgoing and incoming messages, but not for through messages. It does not compensate the company for the use of the subscribers' instruments or

lines or central office equipment when used in long distance service. It does not cover or yield compensation for the service of central office operators who answer the subscriber and pass the call through to the long distance board, for a central office operator who handles the incoming long
637 distance call. I do not know what the originating commission was before the establishment of the 17 cent charge.

Principally that property classified as "long lines plant" in the property of the Illinois Bell Telephone Company in the Chicago division is used in furnishing long distance service for which compensation is received from the A. T. & T. The toll board is a part of the long lines plant and the building is
638 provided for in our remuneration from that operating.

Long lines plant covered by the compensation is that portion of our lines and equipment which is used and held for use for the handling of the long lines toll business. It includes conduit, cables, lines, poles, central office equipment, land and buildings. I cannot tell specifically whether it includes any of the central office equipment except the toll boards. I assume it is the same situation with respect to some of the central office equipment as to some of the other items there. Maybe some toll plant other than that is a part of the long lines switch board toll equipment. Our
639 compensation provides for the expenses, expenses of operators and supervisors engaged in furnishing the long distance service at the toll board, of maintenance employees, janitors, etc. Overhead is added to the cost of such services. There is a 10% administration in connection with operation, and there is a 10% interest charge on the plant used for long lines operation. The compensation from the A. T. & T. does not include any services of operators at the local central offices engaged in the exchange service.

640 I don't know of any uses of the main building for A. T. & T. purposes. We are remunerated for expenses in connection with the operation of long lines business.

The item of $40,819,235 gross revenue in the last column of plaintiff's Exhibit 5 represents the item of $40,058,268.41 shown in City's Exhibit for identification 5, plus the item of non-operating revenue $760,965.95 shown upon the City's
641 Exhibit for identification No. 7. The first item in City's Exhibit for identification 6 is "supervision of maintenance account 601." Some part of that figure represents expenses of offices, which is allocated to different areas. This item of "supervision of maintenance" includes some supervision which is arrived at by the allocation of the salaries and expenses of employes engaged on both maintenance and con-
642 struction. In effect, the figure $434,605.12 is the amount charged against the Chicago division taken from some larger figure containing supervision chargeable to some part of the system outside of the Chicago division, and after items properly called construction items that might have been in the larger figure have been taken out. Practically all of the items under accounts 602 to 610, inclusive, are direct items. There are undoubtedly some minor items which are prorated. The method of making the pro-rates would depend on what item was involved. There are very few of them. The items are so few that I cannot at the minute think of any of
643 them. Assuming there is such an item in connection with repairs of central office equipment, I would have to know the particular circumstances under which the repairs were made. They are very few cases. If I did not want to be so very particular in my answers here, I would tell you this is entirely direct stuff; but there is always a possibility in our business of some minor amounts being involved. Generally those allocations are matters of judgment or opinion upon the particular circumstances as they arise.

644 There might be some costs in account 607, "station removals and changes for 1923," in connection with a machine switching program. There would not be very many. Those changes were going along at various times during a number of years, and I doubt if there is any appreciable excess of amount in there on account of the machine switching program.

Referring to account 621, "traffic superintendence," I think at this time it involved general traffic officers that have to do with different divisions where there is an apportionment
645 to various divisions. The same is not in general true as to account 622. There again I will say that there may be at times people who are involved in joint performance, but this is practically a direct expense. The next three items, 622, 623 and 624, being, respectively, "service inspection," "operating clerical wages," and "operators' wages," is all the operating wages in Chicago. Some of them may relate to service outside of Chicago in some of those situations I mentioned this morning where the exchange is within the limits and some of the subscribers outside. I cannot tell you whether in this specific case it covers wages for station operators who have been trained here in our training school and have been listening in afterwards and are then sent out to some suburban division like Oak Park; and that is the same answer I have given in respect to some of these other items. There might be an isolated case; in practice it does not include it.
646 The operators' school is substantially a Chicago training school for Chicago operators. It probably would include the training of toll operators if there were operators trained specifically for toll purposes. I cannot tell you specifically where the Oak Park operators are trained. The suburban division has its traffic school. I cannot tell you that none of the operators for the suburban division are trained in the Chicago division.

Item 632, "pay station expenses," covers the care of the pay stations which we maintain—the attendant pay stations, as we call them, where we have our own attendants.

647 Item 642, "advertising, $97,000," is all advertising in connection with the promotion of the company's business, educating the public.

Item 633, "other traffic expenses," is in a very large part house service in traffic quarters. No, I am wrong in that. It is "miscellaneous central office expenses" that include the house service in item 631. I cannot tell you offhand what account 633 is. I would have to make an analysis of it.

I think that item 674, "amortization of franchise and patents," has practically always been an item of zero during
648 my connection with the company. I have a recollection that I was asked before the Illinois Commerce Commission, "And during that whole period up to January, 1921, this present system of charging overheads of the kind and character you have designated into the plant or capital account did not prevail?" and I answered, "It did not," and then was questioned, "Notwithstanding that fact you built up a healthy surplus, didn't you?" and then answered, "It was so up to a certain time." And then was asked the question,
"And if I understand you correctly, you said the reason
649 for the change was that your surplus was impaired?" And I answered, "It was." That is true.

551 U. F. CLEVELAND resumed the stand:

Direct Examination by Mr. Bangs.

During the calendar years 1923, 1924 and 1925, and prior and subsequent thereto, the Illinois Bell Telephone Company made certain payments to the American Telephone and Telegraph Company under a contract called the license contract. I made a calculation of the difference between the payments actually made to the American Company under that contract for the city of Chicago and the amount of payments pur-
ported to be allowed by Illinois Commerce Commission
552 in its order of August 16, 1923. The payments under the license contract for the year 1923 exceeded by $336,-
304 the amount computed on the basis of the order of the Commission. For the year 1924 the excess payment was $358,952; for the year 1925, $387,284. The rate of payment was reduced on January 1, 1926, from 4½% to 4% of the revenues.

Mr. Haight: I move that be stricken out, and I object to testimony after the year 1925, for the reasons given in the opening statement.

The Court: Overruled.

For the year 1926 the payment exceeded the Commission's allowance by $223,249, and for 1927 by $251,964. On January 1, 1928, the rate of payment was changed from 4% to 2%, and the conditions of the contract under which the American Telephone and Telegraph Company supplied the re-
553 ceivers, transmitters and induction coils was changed so that the Illinois Bell Company owned those items. They bought them from the A. T. & T. Company at the end of 1927. The price paid for them was substantially the current price less 20%. On January 1, 1929, the rate was reduced from 2% to 1½%.

I am familiar with Finding 11 of the Commission in case No. 11894, "that a fair allowance to take care of maintenance and retirement charges for said property in use as of December 31, 1922, is $7,869,400, and that said sum plus 8¾% of all additions and betterments will be sufficient and adequate to permit the Illinois Bell Telephone Company to properly
554 maintain its Chicago property." I have made a calculation which shows the difference between a "fair allowance to take care of maintenance and retirement charges," as stated in said finding, and the amount of the expense of maintenance and expense of depreciation as shown by the books and records of the company for calendar years 1923 to 1928, inclusive. That calculation is shown in the exhibit marked for identification as Plaintiff's Exhibit 6. Explaining the exhibit—In the first line for each of the years is shown the plant and equipment in service at the end of the year; in the second line the net additions for the year; in the third line the average net additions; the next line shows the Commission's fixed allowance, which is considered at $7,869,400. In the following line 8¾% on the average net additions as shown in the third line. The sum of those two amounts
555 represents the Commission's allowance for maintenance and retirement costs. From the company's books is set up in the next three lines the amount charged for current maintenance and for depreciation of plant and equipment, and the amounts provided for depreciation through charges

to the clearing accounts. The sum of those three amounts in each year is shown, and from that sum is deducted the Commission's allowance, and the excess shown in the last line of the statement. The items shown under the title "Company's books"; that is, accounts 601 to 607, and 610, account 608, and accounts 701 to 704, inclusive, are charged in accordance with the uniform system of accounts, and are the amounts actually charged by the company during this period. The figures entitled "Commission's allowance" is simply a mathematical calculation resulting from the Commission's order irrespective of its validity. The computations on the rate of return are on the company's books in all cases.

556 Plaintiff's Exhibit 6 offered in evidence.

Objected to inquiry beyond the year 1925.

Objection overruled.

Plaintiff's Exhibit 6 admitted in evidence.

651 *Cross-Examination by Mr. Clausen*

Referring to Plaintiff's Exhibit 6, the depreciation charged to clearing accounts is the depreciation on the general equipment accounts. The clearing account is merely a means of collecting in one place those items which apply to both construction and maintenance accounts or other expense accounts, and which are after the collection spread to the proper final accounts. The amounts charged to clearing accounts are apportioned on some basis. They vary for different accounts. For example, in the case of stable and garage expense, it is distributed on the basis of the use of the various automobiles.

652 The books of the company show the investment in plant and equipment in service as of December 31, 1922, at $85,687,816. I am familiar in general with the Commission's order of August 16, 1923, and its finding with reference to the original cost of the property. The finding includes some

overheads. The finding is $90,687,816. In instances where
653 amounts are collected in the clearing accounts and then later distributed, the fixed capital accounts receive some of those expenditures. It is a matter of running them through the clearing accounts rather than direct allocation of the expenditure. I think the Commission did not disregard any part of that cost in finding the original cost. I understand that they included the amounts shown on the company's
654 books.

I attempted to make the comparison of depreciation according to what it is evident the Commission had done in setting up its allowance. It was quite apparent that they included in their allowance a provision for the depreciation on the general equipment. As I understood your first
655 question, it was as to whether in ascertaining the original cost of the property the Commission included those amounts cleared from these various clearing accounts to the fixed capital account. My answer was that I understood that they had given those amounts consideration in determining the value of the property. This exhibit (plaintiff's Exhibit 6) is a comparison of the amount which the Commission in its finding allowed for maintenance and retirement costs with the amount actually set up on the company's books, regardless of what was done with those amounts.

Re-direct Examination by Mr. Bangs.

The Commission's finding was that the amount of $7,869,-400 plus 8¾% on net additions to property subsequent
656 to 1922 would be a sufficient amount for maintenance and retirement costs. The amounts set forth in this statement (Exhibit 6) under the heading "company's books," and including the amounts charged to these four clearing accounts, are set up in here because they are, to the best of our judgment, included in that allowance set up by the Commission.

Plaintiff's Exhibit 7, being a certified copy of the license contract between the American Company and the Illinois

Bell Telephone Company, dated February 1, 1919, and all amendments thereto up to and including December 31, 1928, offered in evidence.

"Mr. Haight: I object to amendments made after 1925, for reasons we have assigned in respect to the choosing of the years heretofore and particularly pointed out in opening statements of the City.

The Court: Overruled."

(Plaintiff's Exhibit 7 admitted).

657 Plaintiff's Exhibit 8, being certified copy of the rates in effect in the Chicago exchange during the calendar year 1923, and its subsequent changes, offered in evidence.

"Mr. Haight: Same objection."

(Plaintiff's Exhibit 8 admitted in evidence.)

658 I have the original and a photostat copy of a specific and routine estimate. I obtained the original estimate from the company's files, and these are photostat copies. The only choice I made was that I asked for estimates completed along during the early part of 1923, or thereabouts.

Referring to plaintiff's Exhibit 9 for identification, be-
659 ing estimate No. C-21135, the preliminary studies in connection with additions to plant are made by the particular departments involved. In this case the plant engineer made the study. All the operating departments collaborated in the preparation of the detail and a discussion of the conditions. Upon a determination of the manner in which the work should be perfomed and just what should be done, the authorization sheet and the supplementary papers setting forth what is to be done and why are prepared, and they are forwarded through the line of the organization for approval by the various officers involved, and finally by the board of directors, who approve the going ahead with performing the work. This estimate shows that it was prepared by the construction engineer and bears his approval, also the approval of the general plant superintendent and the chief engineer. It was thereafter approved by the general manager, in this

case the vice president, and the president, and after that final approval it was presented to the board of directors
660 and approved by them. The identity of the signatures at the bottom of the plaintiff's Exhibit 9 is as follows: Mr. Riley was the construction engineer, Mr. Redmund the general plant superintendent, Mr. Hale the chief engineer, Mr. Abbott the vice president and general manager, Mr. Bloom vice president, and Mr. Sunny the president. The signature of Mr. Drew evidences the approval of the board of directors at their meeting of November 30, 1921. The plant engineering department prepared the outline of the plant which is shown on the third page of plaintiff's Exhibit 9.

Referring to Plaintiff's Exhibit 10, which is entitled, "Final completion report estimate 21135," when the work is completed a preliminary report is made by the plant accountant showing the performance under the estimate, and that is referred to the interested departments for a check-up as to its correctness. At that time if any errors are discovered or omissions in connection with the work to be done, they are investigated and provision made for their correction. After the
661 entire job has been reviewed and all the records in connection with it, the final completion report, of which this is a photostat copy, is prepared, showing the comparison between the authorized and actual expenditures, and this report, including such data as will give the officials the necessary information as to what has been performed and why, and as to any substantial variations between the authority and the expenditure, all these sheets are attached and the completion report goes through the routine of officers for their information and their approval until the completion report also gets the final approval of the board of directors. On an estimate of this sort, where it is quite likely that substantial portions of the plant will be put in service practically as soon as it is made, the entries are cleared to the plant accounts each month. If it is an extensive job that is going over a period of three or four of five months or more, then the entire amount

of expenditures is carried into construction work in
662 progress account until a substantial portion is ready for use, and upon a report of the department performing the work to the plant accountants of the portion available for use, a clearance is made to the plant accounts of the amount involved in plant ready for service. Those completion reports are first certified by the plant accountant and by the engineers who prepared the original estimates. They are also certified by the general auditor as covering expenditures properly reported on the company's books, and by the general plant superintendent, chief engineer, vice president and general manager, and finally by the board of directors, whose final approval is given before the reports are finally placed on file.

The document entitled "authorization estimate No. 23,018, routine estimate first quarter, 1923," marked for identification as Plaintiff's Exhibit 11, and the document entitled "Final completion report estimate No. 23,018," marked for identification as Plaintiff's Exhibit 12, are photostatic copies of the originals which came from the files of the company.
663 I did not choose them at random. This was specifically asked for as covering the first quarter of the year 1923. A specific estimate of the kind I just discussed (Plaintiff's Exhibits 9 and 10) is prepared for each item of expenditure which is estimated will affect the company's capital accounts by $2,500 or more. For the routine expenditures in connection with the regular operations of connecting, moving and removing subscribers service and equipment, there is prepared, prior to the beginning of each quarter, an estimate of the amount which will be involved in that quarter's operations. That is based on the various studies which have been made of the estimate of the growth of the service and the factors affecting the growth, such as gross connections and disconnections, and that estimate is similarly approved by the officials involved and by the board of directors, and thereafter follows the same procedure as holds with respect
664 to specific estimates. The first page of Plaintiff's Exhibit 11 bears the approval of Mr. Riley, superintendent of

construction and plant engineering, Mr. Redmund, the general plant superintendent, Mr. McRae, chief engineer, Mr. Hale, vice president and general manager, Mr. Abbott, president, and finally a certification of the secretary of the approval of the board of directors. The plant department is responsible for the preparation of the detail involved.

Plaintiff's Exhibit 12 is a report of the actual performance for the first quarter of 1923, set up on the same basis as the completion report for a specific estimate is set up. It explains substantial variations between the amounts originally provided for and the amounts actually expended, and in all
665 other respects it follows the general plan set up for specific estimates. The detail in connection with this final report is prepared by the plant department. No entries are made in the company's fixed capital accounts except in connection with routine and specific estimates. That has been true for a long period. I assume that in the early history of the company we didn't have these formal estimates. These estimates or similar ones have been in use for thirty years anyway. The entries in the company's fixed capital accounts, in case of routine estimates, are made monthly as the
666 expenditures are actually made.

When a complete station is installed the entire cost of the apparatus and the cost of installation is charged up to the fixed capital accounts. When a complete station is removed, the fixed capital accounts are credited at a price representing the average cost of all stations and of all installations costs which appear on the books, and the depreciation reserve is charged with the cost of the apparatus. The cost of the installing of the apparatus is charged against the station removal and change account No. 607. The apparatus is turned over to the supply department and is priced at the current cost of such apparatus, and is received into the supply account on that basis, and the depreciation reserve receives a credit of the same amount. If that apparatus is in a condition to be used again with some minor changes, those

changes are made in the supply department and the cost
667 of those changes is charged against the repairs of station equipment. The instrument when it is reused is charged into the plant accounts at the cost at which it went into the supply account, which is current cost. We carry our accounts that way because there is such a multitude of pieces of apparatus involved in the station equipment account that it is impracticable to maintain records with respect to each item of equipment as to just when it was originally purchased and just what alterations were made from time to time, repairs, and so on, up to the date when it is finally no longer usable and is scrapped and not reused. There are no items of property of any consequence other than station apparatus which
668 are figured the same way. In a period of rising prices, as the price of these items of apparatus increases there would, of course be an increased amount charged to the fixed capital account with each reuse, and that would be partly offset by the method of displacing the apparatus at the cumulative average cost of all items. If we had two sets of apparatus originally installed at a cost of ten dollars each, and one of those was later removed, it would be displaced at ten dollars, and if at that time the current cost was eleven dollars, there would be eleven dollars charged to supply account and credited as salvage in the depreciation reserve. Then if that instrument were reused it would go into the plant account at eleven dollars and the average cost would then be $10.50, and the next instrument that was displaced would be displaced at $10.50. During a period of falling prices the reverse
669 would be true, and the capital account would be decreased with each reuse. Any apparent temporary inflation in the plant account due to methods of accounting used by the company would disappear during the period of falling
670 prices. I agree that the Commission was correct in not in any way disturbing the original cost (referring to page 29 of the Bill of Complaint) as shown by the books because of this method of accounting in finding the original cost.

812½ "Mr. Bangs: I referred in connection with the subject (accounting methods on re-used station apparatus) to a stipulation which had been entered into with the Accounting Section of the Interstate Commerce Commission, and I would like to read a portion of this stipulation into the record. * * * This particular document is headed as follows: 'Memorandum of conference between representatives of the United States Independent Telephone Association, the Bell System Companies and the Bureau of Accounts, Interstate Commerce Commission.' The first paragraph reads as
813 follows: 'By authority of the Commission, the director and other representatives of the Bureau of Accounts met with representatives of the United States Independent Telephone Association, and of the Bell System Companies, on November 3, 4 and 5, 1927, to discuss the modification requested in the exceptions heretofore filed by the Telephone Companies with respect to the Commission's order of November 2, 1926.

It is the expectation that the following statement of concurrence reached in these conferences will become a part of the record in Docket No. 14700, and will dispense with the necessity for proof in support thereof, unless the Commission or other parties desire to go more at length into the facts and reasons underlying the same. In case such question arises, it is understood that the companies will produce witnesses to establish the basis for the conclusions here expressed.

As a result of the conferences, the Bureau of Accounts concurs with the recommendations of the telephone companies that the order of November 2, 1926, in Docket No. 14700, may properly be modified in the following respect:'

Then, passing from the items that are not material, and reading the paragraphs covering this subject, the head-
814 ing is: 'Pricing of reusable material (pages 351 to 353 of report)'.

'Much of the property used in telephone service consists of small items. The character of these items of property is such that their identity and original cost from the date of initial installation to final abandonment thereof cannot be maintained without excessive cost of handling and undue refinement in accounting. It is recommended that the accounting for such smaller items of property which are to be re-used in condition substantially equal to new be upon the basis of current prices new for the items, any cost of reconditioning being charged to operating expenses.

Over a period of years, the result of this practice will be a more conservative statement of the fixed capital accounts. The nature of the telephone business is such that the inclusion in operating expenses of the cost of reconditioning small units of property will result only in minor fluctuations in charges to these accounts, and will avoid the use of estimates to cover such costs.

The cost of large individual items of property such as buildings, switchboads and multiple branch exchanges
815 can be readily preserved in the accounts of the carrier, and the re-use accounting would, therefore, be on the basis of original cost.'

I believe I can state that there were no witnesses called on that stipulation, so the matter stands as a stipulation entered into between the representatives of the Bell System Companies, the Independent Telephone Companies and the Bureau of Accounts of the Commission. It is still subject to the formal approval of the Commission. * * * This agreement is signed as follows: 'F. B. MacKinnon, for the United States Independent Telephone Association; C. A. Heiss, for the Bell System Companies; Alexander Wylie, for the Bureau of Accounts.'"

816 Mr. Bangs further stated that the Illinois Bell Company was represented in that conference by Mr. Heiss, and that his above statement stands unless somebody objects.

817 U. F. CLEVELAND, recalled for further examination:

Re-direct Examination by Mr. Bangs.

The reason why the item "Licensee Revenue—Dr." was not apportioned by the Company between construction and expense is that the Uniform System of Accounts provides that the accounting for such payments shall be through the operating revenue accounts, specifically through Account 527, entitled "Licensee Revenue—Dr." That is a deduction from operating revenues. It is a reversed condition. Operating revenue items are credit items, and this is a debit item. This item is deducted before ascertaining the total revenue.

818 In General, the changes in the rates prescribed by the Commission's order of August, 1923, were these: One-party coin box service was changed from a guarantee of 20 cents per day, including four messages, with additional messages at 5 cents each, to a guarantee of 18 cents per day, including 3.6 messages, with excess messages four cents each. On two-party business coin box service, the rate of fifteen cents per day, including three messages, with additional messages at 5 cents each, was changed to a proposed rate of 13 cents per day, including 2.6 messages, with additional messages over the guarantee, and up to 3.67 per day, at 5 cents, and others at 4 cents.

819 The two-party residence coin box service from a guarantee of 12½ cents a day, including two and one-half messages, with additional messages at 5 cents, to a guarantee of 11 cents per day, including 2.2 messages, with additional messages at 4 cents each. The four-party coin box residence service from a guarantee of 9 cents per day, including 1.8 messages, with additional messages at 5 cents each, to a proposed rate of guarantee of 7½ cents per day, including one and one-half messages, with additional messages up to two per day, at 5 cents each and others at 4 cents each. In other words, what the Commission attempted to do by its order was

to affect only the coin-box rates in Chicago, and reduce the guarantee on coin box rates, and also the rate per message for the excess messages over the guarantee.

The estimate which was made by the Company of the effect of that reduction gross was based on the experience of the Company under a five-cent daily guarantee for four-party
820 service, and the experience for that same class under a nine-cent guarantee, including 1.8 messages. That was changed to 7½ cents guarantee, including the one and one-half messages. It would result in a re-classification of the subscribers by use. That re-classification was made, and the new rate applied to the percentage of subscribers in each of these classifications, and the difference between the revenues which were at that time collected from these four-party subscribers, and the computed amount, based on this estimate of classification used on the 7½ cent guarantee, was determined to be the probable loss in rates. As a result of that change in rates, there was nothing in the examination of the usage of the other coin-box classes that indicated that there would be substantial changes in the rate of use so that new rates were computed upon the basis of the usage of which we had some record. Average uses and the amount of loss in connection with the new rates for these classes was established. The sum total of those computations was $2,020,000 per year.

821 In connection with the four-party class, which is the largest class of service, and the one which would be the most affected by a change of guarantee, because that is the class of service used by the subscribers needing the least amount of outgoing service, the effect of the change in guarantee was considered as reducing the amount of the usage of a number of those subscribers, to a point covering a guaranteed number of messages under the proposed rates. That is the experience which I said had been indicated by the usage on our five-cent rate, and the use under the nine-cent rate. At the time of this study, 66 per cent of the four-party subscribers were under the guarantee at that time.

822 Of the four-party subscribers, with a usage between the present guarantee, and the point where the rate for the additional messages under the proposed rate was decreased from five to four cents, 9 per cent were either at or slightly above the guarantee. 25 per cent would be affected by the additional usage over the two calls per day.

823 I would not expect or did not expect in making this estimate any increased usage by people above the guarantee because of the reduction in the price per call. The experience is that people who have this class of service and use a large number of messages use them because they need them and the difference of 1c in the cost would not affect that use.

I have made recalculations relating to the rates which this estimate considered as being those which we would receive from the four party service with the rates and amounts which we were actually receiving and recomputed a loss on that basis, that being the amount which in my judgment would be the maximum amount of loss.

In view of the fact that these rates have not been put into effect, I have also made a calculation, necessarily these calculations are not very close ones, but this last one was made by relating the percentage of use at various rates to the new rates and computing what the return would be on these
824 rates and deducting that amount from the amount actually received. For the period up to the end of 1928 the amount actually reserved for possible refunds was $9,293,000.00. The maximum possible figure was $10,240,000.00 or about $1,000,000.00 greater, and the minimum, which was the last computation, was about $8,900,000.00. That is our actual figure was something like $1,000,000.00 less than the maximum computation and about $300,000.00 more than the minimum computation.

I would like to change an answer I made on cross-examination to the effect that I had not given any consideration to the amount of usage under the decreased rates in arriving

at the amount that I have reserved for refund. Naturally the effect was considered in the amount of that computation because we used the amount of loss estimated to take place in our base figure. Now we have continued the original basis being content to prove or try to prove the approximate ac-
curacy of those figures by these caluculations that I have
825 mentioned, but hoping that this case was going to be dis-
continued and close up almost any time, we have tried to be consistent in our treatment all the way through.

I understood Mr. Haight's question to relate to the effect that had been given in subsequent years and did not understand just what his question was. Full consideration was given to the usage on all classes in arriving at the original estimate of the effect of the reduction in rates.

With reference to cross-examination as to the inclusion in the operating statement for the Chicago exchange of operating areas outside the city limits for which the central office was located within Chicago. The treatment of that situation
given in the statements which I have filed as exhibits was
826 as follows: The property within the limits of Chicago
used in the service of these so called City Served Exchanges is included in the investment figures for Chicago. That part of the property used in furnishing this service and located outside of Chicago is not included. The cost and the depreciation in connection with that part of the switchboard used for this service and the maintenance of that service is included in the Chicago expense figure. The actual operating expenses involved in this service, while they are originally charged into the Chicago exchange on the books, are transferred out and into the suburban division figures in our regular accounting; but all the expense outside of Chicago appears in the books of the suburban division. Now the effect on our statements would be indicated by combining with the figures on our reports these figures for the so-called City served Exchanges. The investment in these exchanges outside of Chicago at the end of 1923 was $356,725.00. We have

a statistical statement indicating the difference between the revenues collected and the expense apportioned to these
827 exchanges which shows a net figure of $36,609.00. Now adding those investment figures to those for the City of Chicago as shown on Exhibit 4 and adding the net return of $36,609.00 to the balance available for return, as shown by the same Exhibit, the total investment would be $101,314,687.00 and the amount available for return $6,316,439.00, that being 6.23 per cent of the investment and comparing with the 6.22 per cent as shown by Exhibit 4.

828 I have no figures for the messages from these exchanges served by central offices within Chicago but one-half of one per cent of the total lines into the switchboard were included in this kind of service. It figures .55 per cent of the circuits, that is on the basis of the number of main stations and trunk lines on the one hand and also on the basis of the number of exchange circuits.

I was asked several questions as to the estimate covering the displacement of certain central office equipment during the year 1923 and have examined that estimate. I am told its number is 19,213. That is the estimate covering the
829 installation of the Central State machine switching. The estimate for this work showed that the amount to be displaced of old plant was $305,000.00, as I recall it, and upon cutting into service of the new switchboard that amount was displaced. In closing up that estimate it was discovered that the original figure for displacement was not correct and that the amount of displacement should be $172,000.00 greater, and before the closing of that estimate and the filing of the completion report for the approval of the directors that additional amount of displacement was made. I have not been able to find any other instances of that character during the year 1923. I believe there are none. This matter was not called to my attention by the commission's accountants and I do not recollect that it was called to the attention of any of the accounting section.

830 The commission accountants have had an office assigned to them since November 18, 1921, for use in various
831 examinations of our accounts in connection with their operations. They have practically continuously kept that office since 1921. I do not mean by that they have been there every day nor every hour of the day. The office has been there and it has been practically constantly occupied. I mean by that the commission accountants have been continuously engaged upon the books of the Company for the last eight years. The only case that I recall distinctly where the commission accountants called to my attention any purported inaccuracy in the Company's books or cases in which the Company was not complying with the accounting rules of the commission is the case where my attention was called to a considerable number of desk stands as having been charged to mainteance account and in that connection I believe I showed the accountants that a corresponding number of desk stands had been credited to the same maintenance account and repre-
832 sented a return of the replaced equipment. There may have been some other cases but they were not of any amount to stand in my mind. I have told the commission accountants that I would be glad to have them tell me anything which looked out of line, which needed investigation. This estimate No. 19.213 was never called to my personal attention by any one.

846 *Re-Cross Examination by Mr. Haight.*

Any expenditure affecting the capital account on which it is estimated that the gross expenditures will be $2,500 or more, must be done under what we call a specific estimate. There is a modification of that so far as a single private branch exchange is concerned. That is extended to $3,000.
Speaking of the period prior to June 30, 1923, the small
847 jobs were all done under the routine estimates. A specific estimate is supposed to show all of the major items of plant that are entitled to be installed under that estimate. It

also gives an estimate of the dollar expenditure which is intended to be made. It also in each instance shows the major items of plant that it is intended shall be retired. Only when we have in our records the definite cost of such items does it also undertake to show the estimated dollars associated with those major items of plant that are intended to be retired.

Just the quantities of plant are involved. We undertake
848 to find the dollar figure that we use as against the retirement after the plant has been displaced. Then there is applied to the items involved in the displacement the unit prices applicable to those items. A final completion report is designed to show, among other things, the actual dollars expended for labor, material, and so forth, used in doing the construction work authorized under the estimate. As the amounts are actually expended they are recorded and check is made of the performance of the work. The labor is reported by the foreman in charge of the job, and the materials and items of that sort are reported and recorded in the accounting records of the company. All
849 of our expenditures on the plant should be accounted for, either through one of these specific estimates, or one of these routine estimates, or in operating expenses. The company has a physical check on these material items of plant that are added to property under the specific estimates. That check is made by the construction officials responsible for the estimate. As to how the company would know if some major item of plant was not reported as having been retired when in fact it has been retired, it would have to depend on the reports of the people who do the work and the inspection given to the job and the officials responsible for that
850 work. It would follow that if an item of plant retired were not reported, then the dollars representing that would not appear either.

Substantially the purpose of routine estimates is to give a blanket authority for a period of time to do all of the minor construction jobs that may be found necessary. These rou-

tine estimates do not refer to any plants or to any specific major items of property that are to be added, as is the
851 case with reference to specific estimates and the report thereon. The reason for it, of course, is that these expenses are largely brought about by the unanticipated demands of our subscribers in connection with their service. It is supposed to show both the dollars expended and also the major items of plant added to the property, just the same as the specific estimate. There is a check of the dollars expended under the routine estimates in the same way that there is a check on the dollars expended under the specific estimates. The same sort of a check is given to the major items retired under the routine estimate as is given in the case of a specific estimate. The responsibility for the report is with the foreman in charge of the job, and the check on that, the accuracy of that report is by the supervising foreman to whom he is responsible. Our system depends upon the accuracy of that foreman in initiating the report of retirement, and the check which is put upon that.

852 With reference to requested information, the joint employees whose activities extend to the operations of the
853 company including Chicago and also out of Chicago, used in March, 1923, 68,391 square feet of the owned floor space. On a plant basis of that floor space 21,201 square feet would be applicable to points outside of Chicago. For occupancy by employees of the suburban division outside of Chicago there is 34,057 square feet; 15,859 in Illinois division, or a total of 49,916 square feet applicable to points outside of Chicago. The 34,057 square feet is the space occupied by the employees engaged in suburban division activities. I figured the total square feet in the three buildings involved. I did not figure it for all of the buildings in Chicago. The total
854 in the three buildings involved is 514,412. These are office buildings. On that statement my computation was that about 13.8% of the total floor space in these buildings could be assigned to points outside of Chicago.

As to the date on which each panel type central office was cut into service in the first six months of 1923, the only one is the State Central. The Central portion was cut into service on June 9th and the State portion after this date, on August 4th. That is the date on which all of the subscribers were cut over into and began to be operated from this equipment. The amount of plant involved in that installation is $5,297,-374.72. We call the cut over date the date on which
855 all of the subscribers were operated from the new equipment. It was done like that (snapping finger).

They are all operated in the old office up to a certain time and switched into the new one the day of what we call the "cut-over."

The amount of Central office manual equipment replaced by panel type but not written off is $172,000 covered in Estimate Number 19213, that I testified about in my direct examination this morning.

871 Referring to City's Exhibit 5, the basis of accounting is that the 4½ per cent payment to the A. T. & T. Co. is set up in the revenues and is not set up as an operating expense, that is, it is deducted before anything whatever is paid.

Assuming a station with the minimum charge of $3.75 for 75 calls, and assuming 75 local calls from that station and
872 ten long distance calls, the 75 calls are charged against the subscriber's guarantee, and there is an additional charge made for the ten toll messages, based on the rate schedules. Assuming that same station with 50 local calls, and ten toll calls, the subscriber's station necessarily is short 25 of the number he is entitled to use. If he is anything under his 75 chargeable calls, he pays $3.75.

893 *Re-direct Examination by Mr. Bangs.*

Toll calls would not be used in making the computation of the calls under the guaranty from a subscriber's station. That is also true as to fire, police and official calls. That is, there are certain classes of calls for which the company

makes no charge and does not use as a factor in determining the amount of the guaranty. Whatever is paid for it is included in the exchange rate.

Re-cross Examination by Mr. Goldstein.

894 If you should walk into a drug store, deposit a nickel and tell the operator you want the police station, you should get your nickel back.

Re-direct Examination by Mr. Bangs.

If the company does not return the nickel and the subscriber complains, the company sends him a nickel.

1113 U. F. CLEVELAND resumed the stand:

Re-cross Examination by Mr. Haight.

I was questioned about the retirement prices from 1911 to 1919, as to whether these retirements were all on the 1912 price level, and I was asked for a little more information about our methods on the retirements. My check-up confirms the statement which I made that our retirement prices were all the actual original costs where we had the records of them, or the estimated costs where we did not have the records of the original cost of the specific item.

1114 As I answered you, whether the prices that were actually used happen to be those of the 1912 cost level or not, I do not know; that as to the basis of estimation for the retirement costs, the basis was a study which had been made during the years 1908, 1909, 1910 and 1911, I believe, which determined the average prices for those periods. Now, that is the condition, and those prices were used, that is, the prices based on that study were used for outside plant up to June, 1920. I think the years involved in the study just mentioned were 1908, 1909, 1910 and 1911. I don't mean that is the complete facts of those years, but the costs during those years. Now, that refers to the outside plant items.

Since June, 1920, we have been using retirement unit costs developed by applying to the various units of plant, unit costs which in total for all of the items of the plant equals the book figures for the cost of that plant. Those prices are revised—those retirement costs are revised every year.

1115 I didn't intend to convey the idea that if we retired something in 1923 that was installed in 1920, we took the actual original book costs as of 1920. To illustrate as well as I can; if we have ten different kinds of items in one class of accounts, as, for example, pole lines, those ten principal items are evaluated at the best average costs which can be obtained, and the average costs are applied to the number of units and the result compared with the amount of plant as shown by our books for pole lines. Those preliminary figures are then adjusted so that any one of those items which is retired will be retired on the basis of its average cost, as shown by our books. Those costs are revised every year so that in the case of a pole line or pole unit retired in 1923 that had been installed in 1909, 1910, or some other date, it would be on the basis of the average cost of one of those pole units, as indicated by the Company's books. That is our pres-

1116 ent method. The first retirement costs were set up on the basis of current costs at that time. When the first revision was made, the retirement costs of the first com-

1117 putation were used as the basis of developing the original figures, the first figures to compare with the total figures as shown by the books, and that procedure was continued.

Assuming we retire everything in 1923, it is quite evident we retire everything our books show. If we retired the total amount of our book investment, the unit costs wouldn't be of any particular importance.

1118 Assuming the pole line account to consist of ten items, and only one of each, and each of these ten items costing one dollar a pole, and all ten items retired in 1923, the answer still holds that whatever the price of pole lines is in

our investment account, the entire amount is retired. It should be one dollar for each item if the retirement costs had been calculated on this supposition, because we would have only one item of each of the ten, those each costing one dollar, and we would have ten dollars in our plant, and if we had ten dollars in our plant, that is what we would retire, and it is assumed that is what we would have. We would have to assume it, on the basis of your question.

1119 When a pole is retired, there is no way of telling what invoice covered that particular pole, therefore it is necessary to get some kind of average basis on which to figure the retirement costs. We do retire at cost, if it relates to anything which we can identify.

1120 The accounting rules provide that if we can identify the particular thing retired as having been bought at a certain time, we retire it at the original cost. If we cannot identify it, there must be some kind of average worked out to apply to the items to get as nearly as possible the correct condition.

Going back to the situation prior to 1920, and back to 1912, I assume that the retirement of units developed from that study of 1908, 1909, 1910 and 1911 were based upon the price levels of that period, 1908, 1909, 1910 and 1911. I am told that adjustments were made in those cases where it was very evident that the average prices as shown in these studies would not apply to the particular plant that was under consideration. On the poles, however, I think we can say that the retirements were made on the basis of those prices up to 1920.

1150 *Cross-Examination by Mr. Clausen.*

1151 The depreciation reserve is an account representing that portion of the company's revenue covering expense of depreciation. We do not put that money in a bank and hold it there. We put it into the treasury and we use it. It is used

for any purpose for which we need money, just the same as any other revenues used to pay operating expenses.

Re-direct Examination by Mr. Bangs.

1152 I believe the company's practices in regard to retirement cost units are in accordance with the meaning of the rules of the Interstate Commerce Commission.

STATEMENT OF MR. BANGS

On Interstate Separation.

673 This testimony has to do with the separation of property. It is sometimes called the interstate separation. In all telephone cases before the Commission neither the companies nor the Commission attempt to make any separation as between the local and toll service or the interstate service. The revenues derived by the exchange from the operations, whether long distance or local tolls, are credited to that exchange. The expenses incident to the rendering of that service are charged as expenses and the amount available for return is determined upon the basis of both the exchange and toll revenues. That is universally true. It was true in this case before the Commission, and it is true perhaps with minor exceptions, in all telephone cases tried by commissions.

When proceedings are instituted to enjoin an order of the commission as confiscatory it is deemed advisable by counsel for the telephone companies in practically all cases, with only one exception that I know of, to make a separation of the
674 interstate property because of the decision of the Supreme Court in the original Minnesota rate cases; the fear being doubtless that since the commission has technically no jurisdiction over the interstate property that if a case were presented without excluding the interstate property, it might not stand.

However, as a matter of fact, the reason why the commissions, for example, and the companies do not make any attempt to make this separation is because of the very small amount involved. Surprisingly enough in the City of Chicago, based upon the number of calls, which is not a completely accurate measure to indicate the amount of traffic, only 1.7 per cent of the calls in Chicago are toll calls and one-half of one per cent are interstate toll calls.

Because of this fact, in preparing the case for trial, I endeavored, in order to shorten the proceedings, to secure the

agreement by the commission and by the city that the case should be tried irrespective of any interstate separation, tried upon the same basis as it was tried before the commission. I thought I had secured that agreement.

I feel certain in view of what took place here the other day as to the cross-examination of witnesses that Mr. Haight did not understand what was involved in the interstate sepa-
675 ration, because upon my inquiry as to what reply affidavits would be filed I was told that Mr. Wray would not file any reply affidavit except on valuation of property; but when the affidavits came in I found a reply affidavit on the question of separation. Therefore, I had to prepare affidavits on the separation question—they were already prepared but I had to get them in form and deliver them to opposing counsel some time after the original affidavits were filed.

There is another question of separation and that is the problem of whether or not there should be any separation down to the exchange property. In other words, it is a possible theory, although no case has ever been tried upon that theory in any court or before any commission to my knowledge—It is a possible theory that all the toll property, irrespective of whether it was interstate or intra-state toll, and all the toll revenues and toll expenses should be excluded so that the court will only consider—the commission will only consider the exchange property, because, so the proponents of this theory would say, we are dealing only with exchange rates.

Now, the city in its answer, as I recall it, went still further and claimed there should be a separation, not only as to
676 exchange property, but down to the coin box rates. Now, of course, no such separation has been made in any proceeding and no such separation will be made in this proceeding, so far as the coin box rates are concerned.

We will, however, present to the court the toll separation in such a way, so that the court, if it deems advisable as a matter of law (I am sure it won't), can take only the exchange property, because in order to take out the interstate toll we

first had to take out all the toll, and then take out the interstate toll; so the facts are before the court.

But as a matter of law, and as a matter of practice, no case has been tried except upon the basis of including revenues and expenses. The property separations are only made of the interstate toll property. In one case which went to the Supreme Court of the United States, the case of the Pacific Telephone & Telegraph Company—the Seattle case, no separation was made and there was only a statement in the affidavit that the amount of usage of interstate property was less than one-half of one per cent, the amount that we have here. The question was raised in the Supreme Court in the brief as to the necessity of separation, but the court did not even refer
677 to it in its opinion.

Moreover, this question of separation has a bearing on the unique theory advocated in the opening argument of the defendants, that they were to try this case upon the basis of the American Company being the principal party in interest, because it is obvious that if the interstate property is separated, that any of the alleged profits of the American Company on the interstate operations, would also be excluded from consideration for the court. It was for that reason, as well as for the obvious effect on the length of trial that I had endeavored to secure a stipulation covering this issue.

Now, coming down to the question of the separation of the interstate property and how it is made; it is made in the manner which will be testified to: Every telephone subscriber in the City of Chicago has two wires from his telephone to the nearest exchange. In that respect his status differs
678 from any other industry, water, electric light, railroad.

In other words, he is given, and always has been given, as part of his exchange service, two wires to the nearest central office.

Originally there was no toll service as we have it now. Historically it developed by the toll lines coming into a town and having their own direct connection, so if a man wished to make a long distance call he did not pick up his telephone and

ask for toll, he went out of this house and walked down to an office and got hold of a telephone which was a toll telephone. So the exchanges were originally founded upon the basis of the connection to the central office and a separate connection for telephone toll.

Later on the toll wires were connected into a toll switchboard, or into the exchange switchboard in small places, but by that time the toll rates and the exchange rates had been developed upon the theory that the exchange rates would pay for the service up to the central office and that the toll rates would pay for the service from the toll board to the next toll board. When flat rate service was instituted, of course, no charge was made for any particular call, so the exchange rates still compensated for the use up to the toll board. When
679 measured rates were put in in large municipalities, no charge was made apart from the regular monthly charge, but no charge was made per message for the use by the exchange subscriber of his two lines in reaching the toll board, just as no charge was made for fire, police, or official calls, because by that time the toll rate structure had been developed upon the basis of the toll rate covering the performance of the company from the toll board to the toll board.

That is the basis upon which the separation is made here.

Moreover, the toll rates filed by the company which I shall offer in evidence, show very clearly that the toll rates are based upon the air line measurement not from each individual subscriber to the other individual subscriber in New York or Chicago or other municipalities, but from the toll board to toll board. As a matter of convenience the toll rates are measured on the postoffice map; but we have several instances throughout the State of Illinois which show very conclusively that the toll rate is not based upon the measurement from subscriber to subscriber.

So, to summarize, the Interstate separation has been
680 made here because of a technical requirement which, as a matter of safety, we feel we must make in order to comply with the decisions of the Supreme Court, although we

might hazard the guess on the Pacific case. The amount and the effect of this separation is negligible, the total calls being as indicated and the total amount of property being a very small amount of property.

The basis of the separation is made upon the board to board basis because of the reasons indicated, first as a matter of law, second historically, third because the toll rates are actually made that way. It is a very complicated thing to do to make this separation. It must be made under the language of the Supreme Court in the Minnesota rate cases upon the basis of use. You may recall they rejected the revenue basis in that case and said upon basis of use.

It was made in the original affidavits upon the basis of the first seven months of 1923 which was the available information at the time the bill was filed. We have continued the separation upon that basis because of the complexity and expense involved in making separation for the entire year, moreover, because the revenues and expenses for the first seven months were so exactly within the total of the revenues and expenses for the year.

681 Now, I think your Honor sees now, as I know Mr. Haight saw, the reason why we objected so strenuously to the questions on Mr. Cleveland's cross-examination as to the use of this property, because it was very obvious to us that those questions could only be directed toward the method of separation, as to which Mr. Cleveland had not testified.

I would like first to offer in evidence as Plaintiff's Exhibit 13, a copy of the Schedule of Toll Rates of the Illinois Bell Telephone Company. I only have one copy of this exhibit. It is very voluminous, includes a post office map, but it is essential to the consideration of this subject if there is going to be any bona fide attempt to disprove the separation.

STATEMENT OF MR. GOLDSTEIN

On Interstate Separation.

708 In order that the position of the City of Chicago may be clear, in connection with the questions, I would like to explain the stand that we take with reference to the interstate segregation. The confusion that has arisen with reference to this matter is the difference in the approach taken by the telephone company from that of the city. The telephone company approaches the problem from the point of view that all of the toll service, both the toll service over the lines of the A. T. & T. Company plus the toll service over the lines of the Chicago Company are interstate services of the Chicago company and that therefore the property and the revenues and expenses should be allocated.

We take the position that as to the interstate toll service over the lines of the Chicago company that that is inter-
709 state service too; that when the Chicago Telephone Company allows its property to be used—the amount of property we will discuss later, that is a subsidiary question—but whatever property the Chicago Telephone Company leases to the American Telephone & Telegraph Company and then the American Telephone & Telegraph Company uses that property in connection with its own long distance service that, as to that type of service, which goes to the subscribers in the City of Chicago, it is not the toll service of the Chicago Telephone Company, because on the contracts the Chicago Telephone Company has a right to offer that privilege but is not obligated, but it is obligated to allow the American Telephone & Telegraph Company to use its property for the toll services of the American Telephone & Telegraph Company. Therefore, there should be a difference between the manner of handling the two kinds of toll service.

Now, the reason why counsel for the telephone company has not comprehended the questions we have asked, has not been through ignorance; it is a fact that counsel takes a different

position with reference to the services where the American Telephone & Telegraph Company is concerned. We take
710 the position with reference to all of this property and all of these services, that the Illinois Bell Telephone Company is engaged in intra-state business; its property is, as far as the property that is leased to the American Telephone & Telegraph Company is concerned, Illinois Bell Telephone Company property. As lessor it receives a certain revenue calculated in certain ways from the American Telephone & Telegraph Company as the user of that property, to the same extent that the other subscribers use its property; that the revenues received from the American Telephone & Telegraph Company for use of its property in the City of Chicago is just as much a revenue over which the state has jurisdiction as any other revenue received from subscribers in Chicago for its own property.

Now, the difference in the approach becomes very important in the other aspect of the case; for, if the position of the telephone company is sustained, namely, that as to the revenue which the Illinois Bell Telephone Company receives from the American Telephone & Telegraph Company for the use of the Chicago property in the service of the American Telephone and Telegraph Company, that that rent is inter-
711 state commerce, then even though that rent be not sufficient, it is beyond the jurisdiction of this Court in a confiscation proceeding to go into that matter, because it is a matter of interstate commerce. Upon our theory if the rent which it receives for the use of its property by the American Telephone & Telegraph Company for whatever service the American Telephone & Telegraph Company wants to use it, is part of the revenues of the properties it owns in this state and which is subject to the jurisdiction of the state commission, then if the American Telephone & Telegraph Company does not pay sufficient revenue it is within the jurisdiction of this Court, as well as the commission, to determine what was a fair rental for that use.

Now, before the commission the telephone company did present—there was presented before the commission, there was evidence in the record as to the amount of the rental and the commission expressly found there were not sufficient facts presented from which it could judge.

Now, in this case and in view of the facts the city will present in connection with the relationship the burden is on plaintiff to show the fairness of that rental. By the theory of
712 the telephone company it is beyond the jurisdiction of this commission, and so when we examined Mr. Cleveland before as to the fairness of the 17-cent commission, we were told we should not go into that because that was a matter involved in the matter of segregation, and when they discuss the matter of segregation, they say they do not have to go into the 17 cents, because it is beyond the jurisdiction of this Court.

Now, the fundamental difference in the matter of approach will lead to a different conclusion. We have no quarrel with the Minnesota rate case but we say that the Minnesota rate case, the rules applied there in segregation are applicable to the toll business over the lines of the Chicago Telephone Company into those portions of Indiana, which is known as Chicago territory. That is proper because there the Illinois Bell Telephone Company is the principal and is the operator of the long distance service, but is not applicable to determine what should be done or to determine whether this commission or this court has jurisdiction over the revenues received by the Illinois Bell Telephone Company for the leasing of the property and for the rendering of the service to the A. T. & T. Company, whose property and service the A. T. & T. Company has used for purposes it has designated as inter-
714 state commerce.

That is in brief the position of the city and the questions will be asked to bring out those facts.

681 Plaintiff's Exhibit 13 offered and admitted.

682 ANDREW SANGSTER, having been first duly sworn as a witness on behalf of the plaintiff, testified:

Direct Examination by Mr. Bangs.

My name is Andrew Sangster; my address Chatham, New Jersey. I am a member of the firm of Andrew Sangster and Company, and have been practicing in partnership or under my own name since about the middle of 1914. Prior to that time I was employed by the firm of Marwick, Mitchell and Company, of Chicago. I am a member of the Illinois Society of Certified Public Accountants, and have been a director. I am also a member of the National Association of Cost Accountants. My firm specializes in public utility accounting in connection with valuation and rate case mat-
683 ters. I have been employed by commissions, municipalities and public utility corporations. I also conduct a general accounting and auditing business, in which capacity my firm has been employed by the United States Government.

While I was employed by the firm of Marwick, Mitchell & Company, in Chicago, I was in charge of a survey that was made by that company of the accounts of the Chicago Telephone Company from the date of its incorporation down to December 31, 1911, on behalf of the City of Chicago. The firm prepared and submitted a report to the City of Chicago. I testified on a later report on behalf of the company in the proceedings before the Public Utilities Commission of Illinois.

I also testified before the Illinois Commerce Commission
684 in the case here under review. That was in bringing the examination of the accounts of the company down to July 31, 1919. For about three years from 1914 to 1917 I was the chief accountant of the valuation bureau of the Public Utilities Commission for the District of Columbia. In 1914 I was employed by the joint legislative committee of the State of New York in connection with an investigation of the telephone rates and service in the City of New York. In the winter of 1923 and 1924 I made an examination of the ac-

counts of the Illinois Bell Telephone Company from July 31, 1919, down to July 1, 1923, investigating also its plant accounting method and examining in detail the gross ad-
685 ditions to the property and the retirements for the purpose of verification. I also made an investigation of the accounts of the Peoples Gas Light and Coke Company, in Chicago, with reference to cost of its property and covering also the revenues and expenses, and testified thereon before the Public Utilities Commission of Illinois on behalf of the city of Chicago. I have made a study of the problem of the separation of telephone property, revenues and expenses, and have been employed by several telephone companies to advise and assist them in that connection.

In a general way I am familiar with the rules prescribed by the Interstate Commerce Commission for the separation of operating expenses of railroads between freight, passenger and allied services. I have made a separation for the New York Telephone Company in its still pending case in the Southern District of New York, also for the Cumberland
686 Telephone and Telegraph Company in 1922. That was with reference to its operation in the state of Tennessee. Also for the Chesapeake & Potomac Telephone Company, of Baltimore City, covering its operations in the state of Maryland. Also about 1925 I was consulted regarding separations made by the New York Telephone Company in its New Jersey business.

I am familiar with the uniform system of accounts prescribed by the Interstate Commerce Commission for telephone companies. That system of accounts does not require the complete separation of the accounts of telephone companies so as to show the intrastate exchange or toll business or the interstate business.

687 With reference to the methods of the separation of the revenues and expenses of the company for the city of Chicago, and the basis upon which the separation was made, first in general a separation was made on the basis of the use

of the services for interstate and intra-state purposes respectively. Subscriber station revenues and public pay station revenues and other miscellaneous exchange service revenues relating entirely to exchange revenue, was treated as intra-state service. Toll revenues were apportioned between interstate service and intra-state service on a basis of the study of the toll revenues made from the accounting records of the company. Messenger service, telegraph commissions, advertising and directory revenues, rents for other operating property, other miscellaneous revenues, miscellaneous rent revenues and non-operating revenues were treated as entirely intra-state. Interest revenues were apportioned on the basis of book costs of the plant devoted to exchange or toll intra-state service or toll interstate service. The expense for licensee revenue charges were apportioned between interstate and intra-state on the basis of the revenues with respect
688 to which that payment was made. On the expense side I am dealing first with the maintenance. Maintenance on the long lines plant was dealt with separately, the expense of maintenance of that property being recorded separately in the accounts of the company. That maintenance expense was apportioned between the interstate and intra-state service by classes of repairs in the same ratio as the separation of the corresponding classes of long lines plant as separated by the chief engineer. Repairs of plant other than long lines was apportioned between interstate and intra-state service on the basis of corresponding classes of plant. In one case, repairs of central office equipment, the accounts do not show toll repairs separately from the repairs of exchange equipment. That separation was made on the basis of a special study. I think I can best describe it from the statement here. The ordinary repairs charged to this account, that is, repairs of central office equipment, were apportioned on the basis of the amount of central office equipment devoted to exchange or toll intra-state service or toll interstate service. Re-arrangements and changes charged to this account were ap-
689 portioned as follows:

The relation of expense of re-arrangements and changes to book cost of equipment was ascertained from the records for a representative portion of the toll switchboards. This relation was applied to the total book costs of toll switchboard equipment used exclusively for toll intra-state service and for toll interstate service respectively to obtain the proper proportion of total charges for re-arrangement and changes attributable to each of the respective classes of service. The balance of charges for re-arrangement and changes was assigned to exchange intra-state service.

Depreciation of plant and equipment was apportioned on the basis of the book cost of the respective classes of depreciable property devoted to exchange or toll intra-state service or toll interstate service respectively. Amortization of landed capital, the next item, was apportioned according to the same principle.

Operators' wages and all traffic expenses were apportioned on the basis of the time devoted by operators to interstate service and intra-state service respectively.

690 Commercial expenses, insofar as they covered commercial administration, advertising, canvassing and other commercial expenses, were apportioned on the basis of interstate and intra-state revenues. Revenue accounting and revenue collecting were apportioned on the basis of work performed in each of these two departments. Pay station commissions, insofar as they related to exchange business, were treated as entirely intra-state. Commissions paid on account of toll business were apportioned on the basis of the ratio of intra-state toll receipts and interstate toll receipts subject to such commission payment. Directory expenses were apportioned on the basis of the use of the directories in the Chicago area by the Chicago subscribers.

General and miscellaneous expense, covering general office salaries, general office supplies and expenses, general law expenses, insurance, accident and damages, law expenses connected with damages, and miscellaneous general expenses

were apportioned on the basis of the ratio of total maintenance, traffic and commercial expenses attributable to ex-
691 change or toll intra-state service or toll interstate service respectively.

Uncollectible operating revenues are separated on the books as between exchange and toll. Uncollectible exchange revenues are treated as entirely intra-state. Uncollectible toll revenues are apportioned on the basis of the ratio of intra-state toll revenues and interstate toll revenues respectively to the total of the revenues to which the uncollectible charges relate.

Taxes were separated according to their nature, for instance; real estate and property taxes and other taxes assessed within the state were apportioned on the basis of the plant and property. The 3% franchise payment to the city of Chicago was apportioned on the basis of the ratio of the exchange or toll intra-state revenue or the toll interstate revenues to the total revenues. The Federal income taxes and other taxes were apportioned on the basis of net income before deductions of those taxes. I think I might say that the remainder of the expense items, rent expense, rent deduc-
692 tions for telephone offices, rent deductions for conduits, poles and other supports and other expenses were apportioned on an appropriate basis.

I have examined the results and working sheets of Mr. Cleveland, General Auditor of the Company, setting forth a statement of revenues and expenses of the plaintiff relating to its exchange and its toll interstate and toll intrastate service. That statement was based upon the methods I have described. I believe that the results reached in that statement are substantially correct.

I have examined a memorandum submitted to me by Mr. Harris with reference to his separation of property between exchange and toll intra-state and toll interstate property, and discussed it with him in that connection. Those separations

are made upon the same basis as the separations of the
693 revenues and expenses I have just described. As far as I can ascertain I believe the results obtained by Mr. Harris are substantially correct. The separation I testified to and the separations made by Mr. Cleveland and Mr. Harris was a separation of the property from switchboard to switchboard. I believe it to be a correct method of separation for the property and revenues and expenses of the Illinois Bell Telephone Company.

695 H. A. HARRIS, having been first duly sworn as a witness on behalf of the plaintiff, testified:

Direct Examination by Mr. Bangs.

My name is H. A. Harris. My address 4409 West End Avenue, Chicago. I am employed by the Illinois Bell Telephone Company and have been employed by that Company since 1912. I was first engaged in the design of central office equipment and plant. Later I was assigned to special studies involving toll. After that I was engaged in toll fundamental plan work. That was followed by an engagement on combination of toll and exchange fundamental plan work. I am now engaged as Plant Extension Engineer.

696 In conjunction with Mr. McRae, who was then Chief Engineer of the Company, I made a separation of the interstate and intrastate property of the plaintiff. That was in 1923. Mr. McRae has since left the Company and is now employed in New Jersey. I did the bulk of the work in connection with that separation. I have since then made a restudy relative to that separation I made in 1923. In making that separation in 1923 I would say first that I pursued the board to board method, that involved the portion of the plant in the City of Chicago used for toll purposes. The regular traffic peg counts supported by special counts were gathered together and studied and all central office equipment jointly handling exchange and toll traffic was separated on the basis

of the use, first by determining the number of equated
697 traffic units—the ratio of the toll traffic units to the total traffic units handled in each office involved furnished the percentage split of office equipment, also of land and buildings. All outside plant used jointly for toll and exchange was divided on the basis of the minute miles use of the plant. All equipment and other property used exclusively for toll was considered as toll and was not divided.

Now as to the method of getting at the central office equipment cost. I speak particularly now of the separate toll boards. An actual inventory was made of all toll switchboards which included the switchboards themselves and the associated apparatus, main distributing frames, cables, wire chief desks, power plant and all other apparatus associated therewith. This included also all Morse apparatus installed and used in the City of Chicago, all carrier current telephone equipment, all carrier current telegraph equipment, duplex sets, multiplex sets, simplex sets, composite sets and so forth. These were appraised using reproduction costs new as of June 30, 1923.

698 The toll board was then divided between intra-state use and interstate use on the basis of the number of traffic units used for each service. The buildings containing this equipment were also apportioned on the basis of use. I first determined the amount of floor space from an actual inspection of the floor space used by each type of switchboard and the ratio obtained from that was applied to the reproduction cost new of the buildings in which the boards were located. Land was apportioned on the same basis.

In the central offices, I mean by that the local offices, a certain part of our toll business is handled. That is what we call our "A. B. Toll Business" or "Short Haul." Theoretically a part of those switchboards are therefore toll boards. We determined on the basis of the relative traffic units the portion of those switchboards utilized for toll. That was apportioned between intrastate and interstate service on the

basis of the equated traffic units required for each service. A portion of the buildings housing this equipment was allocated to toll on the basis of the ratio of the number of
699 switchboard positions utilized for toll to the total positions installed in the office. The land on which these buildings stand was apportioned on the same basis as the buildings.

As regards the outside plant, we now carry separate accounts for toll outside plant. There is, however, a certain portion of our exchange outside plant utilized for toll which is not shown in the toll accounts. This involves principally our A. B. trunk circuits and in some instances the recording trunks and toll switching trunks. It includes the originating tandem trunk groups from each local office to the tandem switchboard and the completing tandem trunks from the tandem switchboard for each office which are used in part for toll service.

We obtained from the traffic records a list of all such circuits in service as of June 30, 1923, and then from the plant records the gauge of those circuits, the length of the circuits, the number of loading coils on the circuits and to that number of circuits we applied unit costs which were developed which gave us the over all reproduction cost new of the toll
700 outside plant. That was further apportioned between intrastate and interstate on the basis of the message mile's use, calls mile's use or call attempts mile's use as the case applied.

I stated a few minutes ago that there was a certain portion of our toll plant shown separately on the accounts as toll outside plant. That plant contained principally the longer haul circuits and that was entered as 100% toll plant. The apportionment of that plant between intrastate and interstate was made on the basis of the message miles use. All private lines were classed as toll. We obtained from the records the number of such lines in service as of June 30, 1923, and applied to that number of lines the reproduction cost new on the unit circuit cost basis.

Any station apparatus properly chargeable to toll, such as Morse apparatus, was determined from the records as to which costs were applied to determine the portion of the total plant used for that service. That is general covers and method I have used. I used the same basis in determining the property for any items of plant that I may have overlooked.

701 I arrived at $94,427,452.00 as the original cost, exclusive of working capital, materials and supplies, work in progress and going value, but including full overhead cost and general equipment, of the property used and useful in rendering exchange service, that is, eliminating all toll. The reproduction cost new, exclusive of working capital, materials and supplies, work in progress and going value, but including full overhead cost and general equipment, of the prop-

702 erty used and useful in rendering exchange service is $136,301,046.00. The original cost exclusive of the items enumerated of the property used and useful by the plaintiff in the City of Chicago other than the property devoted to interstate toll purposes is $96,983,352.00 and the figure for the reproduction cost new upon the same basis is $139,990,354.00.

I made a study of the traffic expenses described by Mr. Sangster and furnished it to him. I made it upon the basis which he described. There is no interstate exchange service in Chicago. One and seven-tenths per cent of the calls originated by subscribers in the Chicago exchange in the year 1923 resulted in toll calls. Less than one-half of one per cent of calls originated by subscribers resulted in interstate toll calls. Three and sixty-two hundreds per cent of the total property of the plaintiff in the City of Chicago is used

703 in furnishing interstate telephone service. Six and sixteen hundredths per cent of that same property is used in toll service both interstate and intrastate.

MR. U. F. CLEVELAND, recalled as a witness for the plaintiff, testified:

Direct Examination by Mr. Bangs.

I have examined the methods and in general the work itself of the separation between exchange and toll and between interstate and intrastate property as made and testified to by Mr. Sangster and Mr. Harris. I have an opinion as to whether the methods used are proper and reasonable. I believe that they are proper methods.

With reference to the separation for the year 1923 I
704 have applied the methods and the figures produced by the appraisals to the separation of the revenues and expenses for the first seven months of the year 1923. That is to say I made the calculations based upon the methods used and those calculations are as set forth in the affidavit prepared for filing herein entitled "First Seven Months of 1923 Computed on an Annual Basis." The figures set forth in that affidavit are substantially correct. They are subject to minor variations which occur in connection with apportionments and which also are rather inherent in the Accounting methods or the application of percentages as to accounts set up by our Accounting methods. I don't believe any of the variations are of any significance in connection with the final result.
705 I believe that this method of separation upon the basis of the first seven months operation of 1923 computed on an annual basis gives us a fairly correct picture for the entire year. I have an opinion as to the effect of the exclusion of the interstate service of the plaintiff in the Chicago exchange on the rate of return earned by the Company in that exchange for the year 1923. I think that there is no important difference between the return including interstate service and that excluding it. I think the figures were that there was
706 a trifle less rate of return excluding the interstate service.

Plaintiff's Exhibit 14 offered and admitted.

707 These figures which I have here are calculated rather roughly from the figures shown in these statements that

have been set up. For the entire City of Chicago the rate of return would be four and thirty-two hundredths and for the intrastate service four and sixteen hundredths. That is, with the interstate service excluded. The four and sixteen hundredths is the return on the intrastate service exchange and intrastate toll. The basis of that return is not on the book cost. They were figured on the investment figure shown on this last calculation and on Mr. Sloan's reproduction cost new.

713 *Cross-Examination by Mr. Goldstein.*

Interstate toll business is toll service in which terminal
714 points are in different states. One class of long distance service goes over our own lines in part and those of the American Telephone and Telegraph Company in part. Another class of local toll messages between the City of Chicago and points in the Illinois Bell Telephone Company's
715 territory in northern Indiana goes wholly over the lines of the Illinois Bell. It is possible that some of the connections are of the type of joint toll service partially over the Illinois Bell's lines and over the Indiana Bell Company's lines. If you refer to connections in which the originating and terminating points are within Illinois Bell Telephone Company territory but in different states, that is one class, but if you refer to connections with points outside of Chicago which are not in Illinois Bell Telephone Company territory but in that of the Indiana Bell that, I figure, is the third one of the kinds or classes you are attempting to identify.

The first class of toll service just described is toll service between the City of Chicago and points outside of the city over the lines of the Illinois Bell to the city limits and thereafter over the lines of the American Telephone and Telegraph Company and that service is known as long distance
716 service. The Company's revenue from that service was included in the computations referred to in my direct
717 testimony as to the segregation. The property in Chicago with reference to that service was included. For the pur-

pose of my computation I considered that the long distance service commenced in the City of Chicago at the long distance toll board. In my computations as to the amount of property I considered that the long distance service commenced at the central office end of the trunks between
718 the central office and the toll board. When it comes down to minute details I do not believe I am competent to give a correct answer. I think the enginer could answer that question.

Mr. Harris now Cross-Examined by Mr. Goldstein.

"Question: Does the long distance service commence at the central office end of the trunks between the central office and toll board?

"Mr. Bangs: I object to the question.

"The Court: Overruled.

"Mr. Goldstein: For the purpose of the computation."
720 In the computation we included under the toll plant the toll recording trunks and the toll switching trunks meaning that so far as toll use is concerned when the operator picks up the plug and puts it into the jack on the recording trunk that is the beginning point of the toll plant from the standpoint of usage, and in the other direction
721 the incoming service terminates at the tip of the plug in the toll switchboard which is located in the switchboard room. In other words I begin at that point and take all the plant and equipment from there on used in connection with the toll board with the long distance service. That is the plant and equipment I have calculated in my computations.

Cross-Examination of Mr. Cleveland Then Continued by Mr. Goldstein.

722 Where the American Telephone and Telegraph wires are used I understand the interstate rates are fixed by the American Telephone and Telegraph Company. The
723 Illinois Bell Telephone Company does not, to my knowledge, determine whether interstate rates shall be lowered

or raised. Where the message originates in Chicago the Illinois Bell Telephone Company collects the revenues from the subscribers in Chicago for long distance service. It collects revenues for those companies who are entitled to participate in the receipts for the messages. It collects it for all of
724 the companies involved in the division of these tolls. We do not include all of those revenues collected in our revenue account. We keep part of it and send the rest on.
725 We keep seventeen cents plus. I think the Illinois Bell Telephone Company transmits to the American Telephone and Telegraph Company all of the gross revenues collected by it excepting the specific amounts that are designated to be retained by it under its contracts with the American Telephone and Telegraph Company.

The Illinois Bell Telephone Company has no control over the disposition or use of the balance of the gross revenues which it sends to the American Telephone and Telegraph Company. The Illinois Bell Telephone Company does not, to my knowledge, have anything to do with making the distribution of the transmitted revenues which it sends to the American Telephone and Telegraph Company among the other companies whose services and property participate in this long distance service.

726 I do not know of the Illinois Bell Telephone Company having anything to do with the determining of what class of long distance service shall be offered to subscribers in Chicago. Qualifying that, I assume that the management of the Illinois Bell Telephone Company in connection with the American Telephone and Telegraph does have some discussion of and possibly has something to do with the decision as to what shall be done on long distance service. I believe the ultimate responsibility for this class of service rests with the American Telephone and Telegraph Company.

727 Long distance service at various times is or has been given throughout the day and night at different rates. I am not familiar with the detailed rates. I do not know of

my own knowledge what the reason was for the establishment of evening and night rates.

729 I do not know whether there is any property used for long distance service within the city of Chicago that belongs to the American Telephone and Telegraph Company. All of the property beginning at the central office end of the trunk lines and leading through the toll board to the end of the long distance lines at the city limits belongs to the Illinois Bell Telephone Company.

730 There is an arrangement by which the American Telephone and Telegraph Company pays us for charges on this property which is used and held available for use for the long lines business. I believe that arrangement is embodied in a contract. I do not think it is specifically embodied in the 4½% contract that was offered as an exhibit by the company.

731 I don't know whether the fixing of the day rates or the evening rates or night rates affects the amount of use from hour to hour of this property that has been leased by the local company to the American Telephone and Telegraph Company for use in the long distance service, but I assume that any variation in rates has some effect. Without 732 doubt, if the rate were confined to certain reasonable hours, there would be a tendency to put more business into those hours. I would like to qualify that by saying also I assume it would create some additional business.

The operation of long lines business, as I understand it, throughout the country is subject to the rules and regulations of the American Telephone and Telegraph Company. I 733 cannot tell you who determines the amount of line and central office equipment required for long distance service in the city of Chicago, excepting that it is like all other requirements with respect to plant. It is the subject of studies that are made by the operating departments from time to time. The Illinois Bell Telephone Company has the final 734 determination as to that. Our officials approve the expenditures, and in that respect they have the final determina-

tion as to whether that is to go in or not. I think I could say, with respect to this plant, the same as any other jointly owned plant: that it is determined after a consultation by all parties that are interested in the service. I don't think I can answer specifically the question as to who has the final say in any other way than I have already answered—that as far as I am concerned, the board of directors are the
735 ones who have the final say. The answer as to who has the final determination as to what property shall be used in the long distance service is very much the same as what
736 I have already given. My answer is that I know of no one who directly reviews the acts of the directors of the
737 Illinois Bell Telephone Company. In the sense that the board of directors approves the expenditure of money, they pass upon the necessity for a certain number of lines or toll boards for long distance service. In the determination as to whether it is four lines, six, eight or ten lines, I do not know. The same class of people make that determination who make the determination whether those lines are to be used for our own local service, the operating people. I don't know who finally determines whether there shall be four or six or ten toll lines between Chicago and New York, but I assume it is the American Telephone and Telegraph Company.

There are certain toll board operators and super-
738 visors who work exclusively in this long distance service. The long lines department of the Illinois Bell Telephone Company hires and pays these employees. I think generally the answer is the American Telephone and Telegraph Company determines the operating method with respect to long lines business. I should say the American Telephone and Telegraph Company supervises the traffic methods and rules under which all long distance service is furnished. The Illinois Bell Telephone Company embodies these rules and specifications in its instructions to its employees; that is, referring to those employees involved in this interstate long dis-
739 tance service. If you refer to all employees, the answer would be different. As to whether those rules embodied

in the instructions of the Illinois Bell are the identical ones furnished by the American Telephone and Telegraph Company for long line service, you are pinning me down to something I cannot answer. In general they are. Just whether they are in the same language in which they are issued, I could not answer.

In 1923 the American Telephone and Telegraph Company reimbursed the Illinois Bell for the salaries paid by the Illinois Bell to such employees. The provision for the reimbursement is in some sort of a written agreement. Just
740 the form of it I am not certain. I am not sure, but I think it is in the list you requested. The Illinois Bell Telephone Company determines the rate of salary to be paid these employees in the long lines service. The toll board operators and supervisors are trained. I think they are trained in the Chicago company's operators' training school. I would like to say that there is a lot of this matter of operating practice that I am only speaking of in a very general
741 way. I cannot tell you of every single individual operation of every sort that enters into this calculation. I can tell you in general what it is, but when you get into all these details I would have to check our records. I can tell you that we get reimbursement for every expense involved in the operation of this long lines business. It includes every expense. That means when you get down to this little
742 detail stuff, I cannot tell you exactly whether it includes the training expenses or not.

The American Telephone and Telegraph Company prescribes the operating methods and routine, probably including the training methods. For the purpose of the Employees' Benefit Plan and for the Employees' Stock Plan these employees are considered employees of the Illinois Bell Telephone Company. Whatever contributions are necessary, or whatever operations have to be taken by the company are taken by the Illinois Bell Telephone Company as if they
743 were their own employees, and they are included in the costs which are billed. That is, the operating cost of

operating the plant. It is not included in the cost for which the 17 cents plus the other items of compensation are given, but it is operating expense that is reimbursed. I assume it is true that in addition to these operators who work exclusively in this service there are also operators and supervisors and traffic employees whose service is divided between the long distance service and the local toll service over the Illinois Bell lines. That is one of the minor things which I cannot

744 state specifically. Whatever is involved in the operation of the long lines business is billed and we are paid for it. The American Telephone and Telegraph Company prescribes the methods as to the specifications of the duties and technique of operations and technique of training of these employees who split their time and their services between the local and long distance.

745 Referring to maintenance employees, my answer with respect to maintenance is that maintenance methods are rather generally systematized throughout the country. I don't know that there are any such specific designation of maintenance duties as there are for operating duties. It is a different proposition. I think throughout the country the general methods are standardized, and that each is the result of conferences and agreements.

746 In connection with long distance service furnished to subscribers in the City of Chicago, services other than those specifically stated before are rendered by the Illinois Bell Telephone Company; that is, all the ordinary services that are rendered in respect to any class of telephone business—billing, collecting, accounting, and so on.

747 Referring to the basis of the payment between the Illinois Bell Company and the American Telephone and Telegraph Company for the use of this long lines plant, it (Illinois Bell) receives an amount which is determined by applying to the cost of that plant certain percentage factors for carrying charges, depreciation, maintenance, and so on, including a 10% return on that plant. For the operating services it

receives all of the expenditures on behalf or in connection with this operation, including an administrative charge of 10%. I did not use the expression "reimbursement." I said it gets paid for those expenses. By expenses I refer to all of
the operating expenses in connection with the furnishing
748 of this long lines business and traffic. By operating ex-
penses I include only those expenses which are in the direct operation of this specific plant and equipment in the long distance service, but not the salaries in the rendering of the general service that it would render for any kind of work, such as billing, collecting, transmitting the payments, etc.

As of January, 1923, the Illinois Bell received 17 cents per message as an originating commission. The commission was 12 cents, as mentioned, up to January 1, 1911, and 17 cents
from that date. The 12 cents originating commission was
749 first established January 1, 1896. The Chicago division
of the Illinois Bell does not receive any separate commission or payment per message on incoming long distance telephone calls terminating in the City of Chicago, so that the 17 cents is the complete commission other than the pro-rate. The 17 cents covers all of those services in connection with the furnishing of this toll service for which the company is not reimbursed in its regular exchange rate. Specifically it covers the cost of billing and collecting the long distance gross toll charges. It includes the compensation for the services of the employees paid by the Illinois Bell in connection with the billing of local subscribers plus the keeping of the books and records of such amounts, and the postage and the records in
connection with the settlements with the American Tele-
750 phone and Telegraph Company. In other words, it in-
cludes all of the services in collecting and settling the long distance account with the American Telephone and Telegraph Company. In a general way that is what it includes.

The American Telephone and Telegraph Company stands the losses for long distance revenues because of accounts being uncollectible. As to why the 12 cents originating com-

mission was raised to 17 cents in 1911, the records show some correspondence or some discussion between the officials of this company and the American Telephone and Telegraph Company which resulted in our being granted an additional 5 cents commission. The discussion was along the line of the use jointly with the local company of the trunk lines and order circuits extending from the exchanges of the company to the toll board.

751 The Chicago company billed the American Telephone and Telegraph Company up to 1911 for the use of the trunk lines for handling the long distance business between the various Chicago central offices and the American Telephone and Telegraph Company's Chicago switchboards. I am not sure as to the rate. That was up to the time they
752 had a separate long distance switchboard in Chicago. I cannot tell you the discussion as to why the originating commission was changed to 17 cents on January 1, 1911, but the fact is that before the establishment of the long distance board in the same building with the local toll board there had been individual trunks furnished specifically for the American Telephone and Telegraph Company's use; that those trunks were not so established in connection with the joint installation, and to equalize the cost of those trunks or to reimburse our company for trunk use this additional 5 cents commission was added, but they were entirely separate and distinct trunk installations. The ones that had been used to the Quincy street location were discontinued and new ones established to the toll office. That is the reason why the 12 cents charge was increased to 17 cents in 1911.

753 There have been some attempts at studies to determine the correctness of the originating charge of 12 cents per message. I understand there was one made back in 1909 and 1910. I do not know anything about that study; I had nothing to do with it. There have been no studies made since 1910. Such records as I recollect indicate that the 12 cent charge was determined by applying the factor of the number of messages

to the compensation which had been received up to the time this basis was established. I have given you my understanding of it. As to whether the 12 cents was established in adjusting the slightly increased compensation that the company would get through the pay stations as compared to the 15% with the 10-cent minimum in other classes of long
754 distance service, I am not clear. I do not know whether the 5-cent charge was established as the result of a study made in 1910 or 1911. I do not know of any attempt to find out what that service cost us. The trunks involved were car-
755 ried on the books at their cost. I do not know that the books would indicate anything with respect to these particular installations of trunk property as distinguished from all the rest of the property. The only overhead in connection with the cost of that property is as shown on the books as of that date. This item is treated in the same way as any other property. There was no dollars recorded on the books of the company at that time to represent going value. There
756 has not been placed any such item on the books since. I am not sure whether there are any records to indicate how the 5-cent charge was established by the Illinois Bell Telephone Company for the use of its property.

757 Prior to 1913 the American Telephone and Telegraph Company owned certain property in the City of Chicago which was used in long distance service. Since 1913 the American Telephone and Telegraph Company did not own any of the property, but all is owned by the Illinois Bell Telephone Company. The 10% return on the actual investment is only one of the items of the rental for the use of the various properties for which the Illinois Bell Telephone Company is
758 paid. The specific items of compensation paid to Illinois Bell Telephone Company for the use of its property, over and above the 17 cents originating commission, and over and above the reimbursement of employees' salaries and expenses, varies according to different classes of plant. The percentages are as follows:

The percentage on land is 13½% plus any actual maintenance in all these cases except where I shall specifically mention otherwise; buildings would be 17.8%; central office equipment 24%; furniture and fixtures 24%; station equipment 33⅓%; pole lines (outside plant) 22.8%, which includes 2% for maintenance; aerial wire 15%; aerial cable 18.3%; underground conduits 15.6%, which includes 1.1% for maintenance; underground cable 17.2%, which includes 1.9% for maintenance; right of way 18.8%. That was the total applied to the cost of the plant in arriving at the amount billed for the use of the long lines plant.

760 When I speak about the cost of the plant I mean that part of the plant and equipment for which we received the direct reimbursement from the American Telephone and Telegraph Company. That property was included in the calculations in the direct testimony as to the property devoted to long distance service of the American Telephone and Telegraph Company. Where the property is used partially by one partially by the other, in effect I apply them on the portion of the plant which I estimate is used for the long distance service. It is this percentage applied to property used exclusively for long lines service, or used jointly by the two companies partially in long distance and partially in the service of the Illinois Bell for other purposes for which we are reimbursed or for which we charge the American Telephone
761 and Telegraph Company. These percentages are applied to the book costs of the property. The American Telephone and Telegraph Company is billed monthly for this amount of revenue calculated by the percentages on the property. By book cost upon which the percentage is calculated I mean the book cost as shown by the books of the company from month to month, and that book cost includes only the overhead as shown on the books of the company from time to time, and only includes those items of property that are shown on the books of the company, and does not take into account

items like going value. I am not sure that I can tell
762 whether the percentages upon these specific items of property were ever changed, but I think there have been some modifications of those rates. I can tell you definitely that originally there were percentages included for maintenance, but in all cases except where in reading the percentages I so indicated, there has been a change. Maintenance has been actually recorded, and the actual amount of maintenance
763 has been included in the computation. All the way through, whether the property was used exclusively or jointly, or apportioned, it was all based upon book costs in the same manner. The apportionment of the property that is used jointly has been made just as often as there has been any change in use. It is a matter of more or less constant situation from month to month.

764 Still referring to long lines plant, the return is calculated on those specific items enumerated, and nothing else. One of the items included in this percentage is to provide for tax expense. In other words, this figure of percentages includes not only a net return, but also includes certain items of expenses in connection with the property. 1½%
765 is included in this percentage to take care of the taxes on the property. All of these percentages are applicable to the cost of the property. I do not know specifically on what basis the 1½% charge for taxes was established. As to how the maintenance is covered in the compensation
766 in the cases where I mentioned the percentage included for maintenance, that is a coverage. In the other cases in computing the amount of rent, we take actual maintenance expenses in connection with this plant for the period involved. This calculation is simply one to be used in order to determine how much we will bill for the use of the long lines plant. It includes all items of maintenance. For pole lines there is 2% included for maintenance, for underground conduit 1.1— for underground cable 1.9%. In all the other cases the actual

maintenance expenditure was included in the computation.
767 Depreciation is included in this computation of those percentages. The period I have here is January 1, 1920, but I think it is also what was in effect in 1923. The depreciation rates for each class of plant are: Buildings, 4%; central office equipment, 10%; furniture and fixtures, 10%; station equipment, 20%; pole lines, 8.3%; aerial wire, 2.5%; aerial cable, 5.8%; underground conduit, 2%; underground cable, 2.8%; right of way, 6.3%.

768. The character of this plant undoubtedly is responsible for some variations between the percentages used in this calculation and those applying to all plants of a similar classification on the company's books; so I am reasonably sure that they do not coincide exactly with the rates which are applied. The plant and equipment upon which those percentages are applied include the book cost of those toll boards which are classified as long lines plant. The departments involved determine what employees of the Illinois Bell are allocated to long distance service, and whose salaries are
769 reimbursed by the American Telephone and Telegraph Company. There is a plant department, and a traffic, and a commercial. Each department that has long lines employees assigns their employees to that division in that particular department. The toll building and land—that is what we call our toll building and land, which is the building at 111 North Franklin street—is not involved in this valuation. In our operating bill we charge a computed rent, made on the same general basis as applies in connection with our use of other
770 items of plant, according to the floor space used for this equipment. They are charged rent on the basis of the floor space occupied by the equipment which is involved in this investment designated as long lines plant. They rent only portions of the building. That is, we charge into this operating bill for the use of that part of the plant which cannot to be segregated as long lines plant, a floor space charge. The rent is based on studies made by the engineers. A per-

centage of the cost of the investment of the Illinois Bell in this property is a factor. The actual application is the application of a per square foot in dollars. It is computed on a cost basis, taking into account the actual operating expenses of the building, so that you get a net rent based upon the original cost of the land plus the original cost of the building.

771 Depreciation and all those items are considered in determining. It was based upon the original cost of the property at the time when the arrangement was instituted, plus the cost of additions, as shown on the books of the company.

House service in the toll building that is used for long distance service, that is janitors, etc., is included in the operating bill.

772 ANDREW SANGSTER resumed the stand:

Cross-Examination by Mr. Goldstein.

I used the board-to-board basis in connection with the revenues and expenses in the Chicago segregation. You understand, I did not make the separation of the property of the plants.

773 I examined the method used by the engineer, that method was the board-to-board method. The board-to-board method was used in the case of the New York Company, covering its operations in the State of New York and in the State of New Jersey, and in all of the other companies, the same board-to-board method was used. I used the board-to-board method in all of my studies about which I testified this morning where the A. T. & T. Co.'s service was involved. I used the board-to-board method in my segregation of the local toll business in this case.

774 I used the board-to-board method in my local toll segregation in the various studies about which I testified this morning in all but the case involving the New York Telephone

Company. In that case I used the method known as the station-to-station basis. The station-to-station basis was used in the New York case on the ground that the toll rates covered the use of the local exchange plant as well as the use of the toll plant; that is, speaking of the local toll business. The local toll business of Illinois Bell Telephone Company covers that Company's toll business over the Company's own lines.

775 The stations are in different territories in the New York case. Part of which was in the City of New York, and part of it was outside, the same as here, part in Chicago, and part down-state. In the New York case, I used the station-to-station method. In the case of the Illinois Bell, I used the board-to-board method. I made a difference in the method because of the basis upon which the toll rates are fixed by the companies involved.

776 I mean the rates fixed as charged to subscribers. It is my understanding that the rates of the Illinois Bell are fixed on the board-to-board basis, and for the New York Company on the station-to-station basis. I don't think the question of fairness of those bases are involved. I think
777 it is a question of fact. I don't know whether the adoption of one method or another affects the rate. I do not know any reason why the Illinois Bell or the New York Telephone Company used the specific method they did use.

778 *Re-direct Examination by Mr. Bangs.*

In my last statement, I have considered the word "method" as meaning the fixing of the toll rates.

779 U. F. CLEVELAND resumed the stand:

Cross-Examination Resumed by Mr. Goldstein.

I have read the so-called 4½ per cent contract a number of times. (Plaintiff's Exhibit 7.)

780 I do not know of any study being made to determine the cost of making connections between subscribers' stations and the toll boards. I do not know that there ever

782 was any study made. I do not know how much it costs the Illinois Bell to render the service between the stations and the long distance toll boards. As to the service, you go first from a subscriber's station to the local board, and then from the local board to the long distance toll board, just as you go from a local board to some other local board and then to another subscriber's station.

788 I have had my attention called to Paragraph 6 of the American Telephone & Telegraph Company contract which reads as follows:

"Each exchange shall, if and when so requested, by the

789 licensor (licensor being American Tel. Co.) make proper switchboard or other connections between the lines of the licensor or its licensee, from points without such exchange and terminating in such exchange office, for the purpose thereby of making up a through line between points without such exchange. With respect to all the business referred to in this article, the licensee shall make no charge to its own subscribers or patrons, but shall be entitled to the following compensation and none other:

The licensee shall receive upon communications originating at exchange or toll stations of the licensee, or of the connecting companies of the licensee within its territory, passing over the trunk lines reserved to the licensor by Article 5, 15 per cent of the amount received for the tolls for each such communication, not to exceed twenty cents for any one communication. Provided, however, that whenever the party entitled to such toll employs the trunk operator who has charge at or for the originating exchange, and completes such communication, the sum to be received by the licensee for such communication shall

not exceed ten cents, and provided further that the licensee shall receive on each such communication originat-
790 ing in a public telephone pay station of an exchange double the aforesaid compensation. The amount so received as aforesaid by the licensee is to include compensation to the licensee for the use of all the facilities of an exchange furnished to or in connection with such communications whether to or from such exchange, except the facilities to establish connection between the exchange station and the toll board in which said trunk lines terminate, or between an exchange station and the toll trunks when such trunks are entitled to effect connection with such toll switchboard, for the use of which excepted facilities the licensee is compensated in its rates for exchange service in such exchange."

791 The facilities required to establish a connection between the exchange station and the toll switchboard in which said toll lines terminate, or between an exchange station and the toll trunks, when such trunks are employed to effect the connection with such toll switchboard, being a part of the total exchange service furnished over those lines, there is no separate record of the cost of those items as separate and distinct from the cost of all exchange service over that line. The company has never, to my knowledge, made a study to determine the exact cost of these specific facilities.

793 I would like to say, if I had to ascertain that cost for any specific period, I would not attempt to sit down and ascertain the method of going at it myself. I would call in all the people who knew anything about it, and discuss the whole problem with them, and determine the method, or ascertain that it would be asinine to attempt to make such a separation.

I don't think we have any computation to show the number of subscribers who use long distance calls, and the number of calls so used during the years 1922 and 1923. We may, for some period, have that information. We don't maintain any such records.

794 We have any number of studies that have been made from time to time which probably have factors of the sort

which show the number of long distance calls compared to the number of subscribers in the City of Chicago having the various classes of local exchange service. As to whether we have that specific thing or not I can't say.

795 I have not made a study to show the number of long distance calls made.

797 I do not know how much long distance service each subscriber in the exchange originates.

798 I have no definite knowledge as to whether the interstate toll service requires the entire local plant to be maintained at a higher standard than would be necessary if it were purely local exchange service. I do not know.

799 I have not made any calculations on that matter.

803 H. A. HARRIS, recalled for cross-examination:

Cross-Examination by Mr. Goldstein.

804 The fact that interstate toll service where the A. T. & T. Co. is involved is furnished does not require the entire local plant to be maintained at a higher standard than would be necessary if it were purely local exchange service. The responsibility for transmission on toll service and the improvement of transmission of toll service lies wholly within the toll plant. We do not provide any better maintenance or any better exchange plant for the handling of toll service than we would if we had only exchange service.

"Question: If you were to determine what it cost the Illinois Bell Telephone Company to connect the local exchange facilities to the toll board or to the trunks leading to the toll board, what factors would you take into account?"

Mr. Bangs: Objected to as immaterial, for the reason stated yesterday.

805 Objection overruled.

806 I assume that what you want to know is how I would

proceed to get at the cost to the Company of that part
807 of the service which is embraced in the transmission of a long distance message from my station to the toll board. I would start out first by gathering considerable data to show the amount of use, the exact use of the subscriber station. The amount of exact use of the pair of wires leading from the station to the local switchboard, based upon holding times per message, comparing that with the holding times of the toll messages, and from that getting the ratio which I could apply a unit cost per station to the unit cost for the subscriber's line. When I get into the central office, our central office equipment is designed on the basis of calls and traffic units. By that I mean that for each class of calls handled by an operator, that call has a certain weighting. I would equate calls going from toll boards, allowing to those the proper coefficients, and from that determine the number of positions or fractions of positions required to handle that service.

808 I would then put that in the terms of cost, using our standard costs. That covers the switchboard end of it.

Now, for the operating end, we would use those same units, applied to the cost per thousand units, for the handling of the service. Now, that can be determined in an approximate manner, but to do it in considerable detail, and with considerable accuracy, I fear that in order to obtain these holding times on the basis of use, we might have to resort to considerable expense, not only in equipment, but in periods connecting these holding times, which would have to be charged to exchange circuits, not to the part involved in the handling of toll circuits. I have never made such a study, prior to June 30, 1923.

809 *Re-direct Examination by Mr. Bangs.*

As to the engineering of the local and toll plant, the transmission efficiency on a toll connection which includes subscribers' lines, subscribers' stations, and all of the toll plant,

is determined by comparison with a standard circuit. The standard circuit means or is equivalent to about twenty-five miles of artificial standard 19 gauge cable, having a capacity of .054 microfarads, 88 ohms, per circuit mile. Now, that means, if you were to make a call from Chicago to Detroit, say the standard of transmission is 25 transmission units, or the more modern term, 25 decibels, which is the new term for traffic units. That means there is an over-all loss on transmission, of the equivalent of 25 of those units. We do not provide in the exchange portion, that is from the station to the first local switchboard, any better plant to take up
810 any of that loss, but the loss is taken up in the switching trunks from that local office to the toll board; then, in the toll line, from the toll board to the toll board at the distant point; then a corresponding loss is taken up in the switching trunk at that point, but no loss in the exchange circuit. We take up the loss in the toll service by loading trunk circuits. I mean by that, we put coils at equidistant points along that trunk, which has the effect of overcoming the capacity in the circuit. Those are induction coils, known as Pupin coils. When you get on the line circuit, we also load those circuits, and we introduce telephone repeaters, which can be stepped up or lowered down in order to get the desired transmission level. These telephone repeaters are located
811 along the line about 50 miles apart. That is, on a line from here to Detroit, we would have one of the repeaters in the circuit at every fifty miles. On aerial cable lines, those Pupin coils are the things you see in those large iron cases that are about 6,000 feet spacing apart. In the underground plant, those coils are placed in the manholes along with the cable. The Illinois Bell owns the toll lines from Chicago to Centralia, Illinois. I would judge that is about 200 miles. We use the same type of apparatus to protect the toll transmission from Chicago switchboards to Centralia as is used in protecting the transmission from Chicago to Detroit.

Re-cross Examination by Mr. Goldstein.

812 I cannot give the exact date when those standards were established, but they have been used for a number of years. They have been improved from time to time. We had loading coils some time prior to 1923 and we also had telephone repeaters. We started out first with the cord circuit type of repeater, where the operator inserts the repeater at the toll board on the toll connections desiring proper transmission. I have no measure as to the part of the improvement that was done subsequent to 1923.

That unit of standard decibel has been in service a number of years, and prior to 1923. I cannot tell you the exact date when that word was first used in connection with the standard I am describing.

MR. CLEVELAND resumed the stand:

Re-direct Examination by Mr. Bangs.

832 I have made a computation showing the return paid by the American Company on the plant owned by the Illinois Bell and used by it in the rendering by it of long distance service to the Chicago exchange.

833 (Paper marked for identification as Plaintiff's Exhibit 15.)

The actual plant shown on Plaintiff's Exhibit 15 is the plant shown in our long lines plant record. The maintenance figure was the maintenance expense also included in our long lines plant record. The other items were computed by the application of various rates. I think our insurance and general was an apportionment on the basis of the plant, and our taxes were based on the plant so far as they referred to plant, and on the basis of income or revenue so far as they referred to those items. I believe the information set forth

in this exhibit to be substantially true and correct. This
834 statement is merely a computation to get approximately before us the fact that we were getting at least that 10% return. I don't think it is exact in any other sense. It is based on apportionments and the application of average figures or average rates to known figures; and while I believe that it is substantially correct in its results, I don't think it is exactly and absolutely an indication of the fact that in 1923, for example, we got 11.45% on this plant. It is my best judgment, after making the exhibit, that the return in each of these years was in excess of 10%.

Plaintiff's Exhibit 15 offered and admitted.

835 My recollection is that there is around six hundred independent telephone companies in the state of Illinois with which the Illinois Bell has connections. I haven't the exact figures. We would have what is known as a connecting company agreement with some few less than that, because our agreements, our connections with some of those companies are through others, and our agreements are with the operating companies. I believe three hundred and fifty agreements in 1923 is substantially correct. Those connecting company agreements are approved by the state commissions having jurisdiction. Those agreements provide the method by which the company shall divide their tolls.

836 I have made no computation for the year 1923 to determine how much per call the Illinois Bell Telephone Company would have received during the year 1923, on what has been termed here its long distance business, if there had been in effect during the year 1923 a standard form of connect-
837 ing company agreement. We have a computation for two days of 1922 and also for ten months of 1928. The two days of 1922 which are analyzed were on the basis of the contract in effect in 1923. I think there were possibly changes in the contract between the year 1922 and 1923 on the basis
838 of settlements. We analyzed the business for June 16th and 19th, 1922, and the commissions which we would have

received if we had been the connecting company and getting our commissions from the A. T. & T. on the basis of that
839 connecting contract. This would be 8.46 cents per message. It compares with the 17 cents per message. Probably the comparison would be made more directly with the 12 cents. The same computation that was made for the
840 two days in 1922 was made to determine the amount the Illinois Bell would have received as an originating commission for its long line business in the city of Chicago if in place of the operating agreements actually in effect with the American Company as to the Chicago exchange, there had been in effect during the year 1923 the standard commissions paid by the American Company on business outside of Chicago. The computation shows 12.11 cents as the commission.

I have a computation that was made for the first ten months of 1928 giving the average amount per message involved in the gross originating tolls from Chicago on the long lines business, and the percentage of that amount per message which the Illinois Bell received on the total payments made to it by the American Company covering this operation
842 in Chicago. The average gross receipts per message for this ten months period was $2.26, and the amount of total receipts for long lines operations, including the use of the plant and the cost of operators, and so on, for the period was at the rate of $1.12, which is about 49½% of the total
843 gross revenue. In other words, out of the total amount per message which the American Company received for its long distance business originating in the City of Chicago the Illinois Bell received approximately one-half.

Cross-Examination by Mr. Haight.

860 I have rather a complete story of the various transactions prior to 1913, with reference to both the mileage pro-rate and the commission. It is a fifteen-page statement. It covers a statement based on settlement for tolls between

the operating divisions of the Illinois Bell Telephone Company, settlement with Associated Companies and settlement with connecting companies, for as far back as we have any information down to date.

861 The information is taken from the Company's records. (Statement marked for identification as City's Exhibit 8.)

Four complete pages and about two-thirds of another one are under the title appearing on page 1, "Basis of apportionment of toll revenues by operating divisions of Illinois Bell Telephone Co." It runs to the Roman numeral II on page 5.

862 The words "effective January 1, 1910" mean the date this basis of apportionment was effective and is the basis stated in the next paragraph immediately following.

"Average Chicago revenue per message" is the title of a study that was made by Arthur Young & Company. It
863 was made by this firm of accountants as their suggestion as to the proper method of allocating the tolls collected in one area which were earned in different operating areas. That, of course, was done primarily to be used in connection with the discussion of our rates before the City Council of Chicago. I believe that report was made to the Comptroller of the City of Chicago by Arthur Young & Co., and was submitted to the Council by the Comptroller.

Average Chicago revenue per message means the Chicago revenue per message in connection with these messages, applicable to the different classifications stated below in this paragraph. That revenue was per message in Chicago. The proportion was obtained by allowing 15 per cent commission to the originating point and distributing the balance between the areas involved on the percentages which are mentioned below.

864 Under Arabic numeral 1, effective January 1, 1910, down to Arabic No. 2, the statement gives the proportion of revenue received by Chicago from toll messages, after the

15 per cent originating commission has been deducted, on messages originating in Chicago to all Illinois Bell Telephone Company and connecting company points, 53.13 per cent, and the next item, Illinois Bell Telephone Company Suburban and connecting company points to Chicago, 42.205 per cent, and so on, describing the different sets of circumstances, and determining what per cent should be applied in allocating that revenue, after the 15 per cent originating commission has been taken out.

Under Arabic numeral 2, after "Effective September
865 1, 1913" the statement contains the following: "The following revision of percentages on basis of study of toll messages for May, 1913, was made effective September 1, 1913. The originating commission of fifteen per cent (15%) was first deducted." That is the same thing as was done under Arabic number 1, except as to the date of its having become effective, and the changes in the rate of percentage.

867 The last study made prior to June 30, 1923, was the one that resulted in the arrangement made effective No-
868 vember 1, 1921. There was a study prior to that arrangement made effective January 1, 1918, and another prior to that effective September 1, 1913, another prior to that effective January 1, 1910. The rest of the document, beginning on page 4, relates to the dates beginning January 1, 1926, and other dates subsequent thereto, and practically down to date.

In regard to City's Exhibit 5, item 510, message tolls $2,711,953.78, the local toll revenue is $1,826,486.79, and the long distance revenue is $885,466.99, making the total.

870 The gross local tolls originating in Chicago in 1923 was $1,977,309.40. The gross long distance tolls originating in Chicago was $4,490,167.89.

874 The average plant set forth in Plaintiff's Exhibit 15 represents the cost of all of the plant in the City of Chicago used for the interstate toll business and including that

for which we make a charge against the A. T. & T. Co. for its use.

Those figures after the title "Average Plant" of the various years excludes that plant which is used exclusively for Illinois Bell interstate business other than A. T. & T.

875 It is not a matter of separation. I thought I just answered that that was a separate plant. This did not include any of the plant used for the local company's service. There are parts of plant used in connection with all of this long distance business. There is plant used for the long distance business between Chicago and Indiana.

If messages go to Indiana points served or reached by A. T. & T. Co. lines, that goes over a part of the plant which is included in the figures appearing in Plaintiff's Exhibit 15.

876 If it is long distance over Illinois Bell lines, that is not included. The plant that is used for long lines purposes is separately recorded in our accounts as it is assigned to this use, or as it is built for this use.

The account "Average Plant" in this Exhibit 15 relates only to property used in Chicago in the service of interstate business going partly over our lines and partly over the A. T. & T. lines.

877 These figures include any plant used for the interstate service to points reached over the A. T. & T. lines.

878 The figures appearing on Exhibit 15, taken from our books, long lines account, relate only to the business going over the A. T. & T. lines in conjunction with ours. There is property used by the Company for the business going over the A. T. & T. lines in conjunction with ours, and for long distance service between Chicago and Indiana points over Illinois Bell lines. I do not see how, under the circumstances, there can be any allocation. I have said that this includes the property which is used for long distance service going partly over lines of the A. T. & T. Co. and partly over our

own, and does not include any of the property or service going entirely over our lines.

In 1923, I think I can answer, that there are no switchboards that are used in both of the two kinds of long distance service we have been talking about. To the best of my knowledge, all property used wholly or in part by the A. T. & T. long distance service is represented in these figures appearing on Plaintiff's Exhibit 15.

879 The classification of lines as between toll lines and exchange lines is, as I said the other day, one which is not absolutely exact. The toll wires, so far as they are usable, are separately classified according to the different services which they perform. That is the toll wires and the exchange wires. There will undoubtedly be a case where some one pole in Chicago that was classified as A. T. & T. might carry a circuit that was used for local tolls, and I think the converse of that is true also.

The accounting in those cases of common property is this: That where that incidental use occurs, where the property cannot be completely identified as useful for long lines,
880 there is a charge made during the period of use of these temporary circuits, computed on the same basis that the charge for the use of all long lines plant is computed, and also, when any part of the plant classified as long lines is used incidentally or temporarily for local toll service, a credit is given on this bill against the A. T. & T. Co. computed on the same basis.

That which is classified as long lines plant appears in these figures in Plaintiff's Exhibit 15, but these incidental uses of plant not readily identified as long lines plant do not. Where there is a cable assigned to long lines use, and a part of that cable is not being used and the Company needs some of those conductors for its own local toll service, then there is a
881 credit given to the A. T. & T. Co. in billing them for the use of this plant, computed on the same basis that is charged for the use of the plant *in toto*. In the case I have

just cited, the amount of investment in that plant would appear in these figures. If the situation were the reverse, the investment would not appear in these figures, but the amount of charge for the incidental use for long lines business would appear in the revenue credit.

In some respects, in Plaintiff's Exhibit 15, there appears all of the plant and property used in the A. T. & T. business plus some property that is used in other than the A. T. & T. business, and to some extent there is some property used in the long lines business of the A. T. & T. Co. that does not
882 appear. The way that is cared for is by making charges against one or the other in relation to the particular use where that use is joint.

Large items of the plant used for the trunks between the toll board and the various central offices are exchange underground cable and exchange underground conduit. The basis upon which the 5-cent charge is made was upon a basis of figures existing in 1910.

The Byllesby & Arnold inventory and appraisal was made in 1911. Along in 1915, I believe, an adjustment was made in the book cost of the fixed capital on the books of the Company to correspond with the result of that appraisal.
883 It was made retroactive. I have not the figures in mind as to the charges. The total amount of the plant remained the same after the adjustments were made, but
884 there was a different allocation of parts of that total amount to the different accounts.

885 The blanks I have before me are copies of the blanks on which contracts were made with the connecting companies at the time and subsequent to the time that we took over the plant and property of the Central Union Telephone Company in Illinois, and we took over the contracts as well. The first one bearing at its head "Traffic agreement exchange" is the standard form of contract I had in mind in my testimony this morning. The one entitled "Supplemental traffic agreement" provides for division of the revenues.

It provides for the service where lines of two companies
886 are used. The third one headed "Illinois Bell Telephone Company, Chicago, Illinois, January 3, 1921," is simply the agreement on the part of the Illinois Bell Company to carry out the terms of this traffic agreement. In order to arrive at my computations under which I wrote into these blanks a contract substituting the A. T. & T. for an Illinois company, I took for a basis of computation two days of 1922, and 1928 did not enter into this computation. The provision of that contract, I believe, is that on tolls up to 75 cents
887 there is a commission of 25%, and for messages over 75 cents going over long distance lines there is a straight 20 cent commission. Those commissions are halved when the company over whose lines the business goes furnishes the operators, which is a like comparison with the 12 cents in Chicago, and which is the situation which would have to be considered in a connecting company, so that the rates would be just half of those which I state, and that computation was made on that basis. I have a typewritten summary of the particular study I testified to on direct this morning, on which my final conclusions appear.

888 Traffic agreement blank marked for identification as City's Exhibit 9.

Supplemental traffic agreement blank marked for identification as City's Exhibit 10.

Document headed "Illinois Bell Telephone Company, Chicago, Illinois, January 3, 1921," marked for identification as City's Exhibit 11.

Typewritten summary just produced marked for identification as City's Exhibit 12.

I believe we have a file that contains data upon our entire study that enabled me to give this summary appearing in City's Exhibit 12 marked for identification.

1128 With reference to the dates the 12-cent and 5-cent commission charges were established, and what the originat-

ing commission was before the 17-cent commission, the original agreement effective in July, 1891, and up to 1896 provided for an originating commission of 15 per cent on the cash receipts on business originating in Chicago, not exceeding 10 cents on any single message, and double that amount of commission where the message originated from a pay-station. In 1896 the rate of 12 cents per message was agreed to. That 12 cents applied to paid messages. We were allowed no commission on free business or uncollectible business, but in June, 1899, that was extended to apply to every message, including free and uncollectible ones. In January, 1919, report charges originated in connection with telephone toll service, and from January 1 we were allowed that same commission of 12 cents on all report charges.

Now, with respect to the 5-cent allowance, that began January 1, 1911, at the time the toll boards of the long distance service and the local toll service were established in the same buildings, and common trunks were used for getting
1129 the messages to these toll boards. Effective January 1, 1919, with the establishment of the report charges, that 5-cent allowance applied also to the report charges. The public pays the schedule report charge, whatever it is, just as they pay other items of long distance service. That varies. I do not know what the minimum rate is. I am not at all familiar with the long distance rates in detail.

I was asked to produce the contract for the cost of operating the long lines. That contract is evidenced by some letters passing between the Company and the A. T. & T. Co. in 1913.

(Document marked for identification as City's Exhibit 15.)

1130 The letter marked for identification as City's Exhibit 15 is a typewritten copy which I assume is in accord with the original. It was made from a typewritten copy, which was the only one I was able to find in my records.

How the 5-cent item of commission was established is evidenced by copies of two letters which I have here, which passed between the Companies in 1911.

(Said two letters marked for identification as City's Exhibits 16 and 17.)

1132 I was asked when the billing percentages were established in connection with the charges for long lines plant, and also what they are. The percentages are covered in a memorandum which I have here and the changes, the last one being January 1, 1920, covered in a separate memorandum.

(Paper marked City's Exhibit 18 for identification.)

The first of these headed "Illinois Bell Telephone Company annual charge percentages applicable to long lines plant in Chicago," has been marked City's Exhibit 18 for identification. These annual charges were first established as of the date given in the first column, September 1, 1913, and continued in force until December 31, 1919, and similarly where the dates are given throughout the rest of the exhibit. I have no definite knowledge who established these percentages.

It is quite evident that they were established after dis-
1133 cussion between the companies. The percentages given here are based upon book costs.

The other paper headed "Illinois Bell Telephone Company present annual charge percentages applicable to long lines plant in Chicago, effective January 1, 1920," has been marked by the reporter City's Exhibit 19 for identification. The percentages are again based upon book costs.

I was asked if the rates used for depreciation on long lines property is classified under the same general heading that we use in accruing our depreciation expense. I have a paper showing these rates, and in a parallel column the rates used in this computation (document marked City's Exhibit 20 for identification).

1134 I was asked if we had any record of the number of subscribers in each of the exchange classes who use long

distance service, and of the individual use within each of those classes by individual subscribers. There is no record attempted of any such separation of our business.

I was asked what the book cost of the exchange underground conduit and exchange underground cable was before the adjustment which was made in connection with the Bylesby & Arnold appraisal, and the amount after adjust-
1135 ment. Under exchange underground conduit as the books appear before adjustment the amount was $3,534,980.10, and after the adjustment $4,121,128.37. Underground cable before the adjustment was $4,884,007.32, and after the adjustment was $5,610,430.23.

1136 I have a copy of City's Exhibit 12. The first group that I gave, "present basis," is the 17 cents originating commission on long distance messages originating in Chicago, and is based upon 10,865 messages from records taken on two days June 16th and June 19, 1922. The second group is a computation of the originating commission on the same messages, computed on the basis of the contract then in effect between the Illinois Bell Telephone Company and the A. T. & T. Company applying to its exchanges outside of Chicago. The third group is a computation of the originating commission on these same 10,865 messages on the assumption that the contract then in effect between the Illinois Bell and its connecting companies was in effect. All three of these computations are based on these same 10,865 messages as of those two dates—June 16th and June 19, 1922, under the different circumstances I have described. To the best
1137 of my knowledge those 10,865 message include all of the originating long distance messages in Chicago on those two dates.

On the first basis, that is, the one headed "present basis," the Illinois Bell does not receive the originating commission of 5 cents on the free or uncollectible messages—only on paid messages. It may be true that the service on uncollectible messages might be even greater than on the collectible.

The commissions paid outside of Chicago are paid only on paid business, so that a similar factor applied in the sec-
1138 ond computation. The first computation and the second computation are entirely different in every respect. I couldn't pick out the 5 cents item and say that was the principal difference. The amount of money involved in the first computation is a total of $6.55 and the second $16.06 for all these messages. The 5 cent separate computation is in the first calculation and not in the second because it does not apply. Broadly speaking, there is the difference that in Chicago, due to the large area and the great number of offices and the service, that a great network of trunk lines is necessary to connect the central office with the toll boards, whereas in the exchanges outside of Chicago, generally speaking, this is not necessary, as in most of these cases the long distance lines of the A. T. & T. are brought directly into the toll board. When
1140 you compare the average message on connecting companies with the average long distance message, you are comparing two different things. This is a computation with respect to the same messages covered in the first and second calculations using the settlement basis for those same messages which apply with respect to our connecting companies. The connecting company contract is intended to cover all messages originated by these connecting companies, regardless of their amounts.

1141 On the basis of the facts appearing in the third class, the originating commission on a ten cent message would average 1¼ cents. Such a thing as a total gross receipt of 10 cents on such a message with an originating commission of 17 cents upon it, based on the A. T. & T. contract charge, I cannot think of it being possible in our dealings with the long lines business, I think it might be in connection with some charges, there would be very few of them, if any. I don't know what the minimum report charge is. In my third setup I am comparing two sets of facts in the sense that the settlement basis with one group is one thing and with another

group is another thing, but I am using in connection with those separate facts the same traffic. I think the kind
1142 of comparison I have made in this exhibit is a fair comparison for our purposes and for any purpose.

$4,490,167.89 is the gross amount of tolls originating in Chicago in 1923 and going over the lines of the A. T. & T. Company in part. It does not include income to the A. T. & T. Company over brokers' lines, private lines, telegraph,
1143 radio, etc. It applies only to message tolls. I don't think I testified that the toll revenue received by the Illinois Bell Telephone Company for its property and services used by the A. T. & T. in Chicago in 1923 was $885,466.99. In 1923 the local toll revenue was $1,826,486.79 and long distance $885,466.99, making a total of $2,711,953.78. To get the $1.12 per message that went to the Illinois Bell I did not divide the $885,466.99 by the number of originating long distance messages testified to by me as representing the amount per originating long distance message received
1144 by the Illinois Bell. That $1.12 was, I believe I testified, the result of a computation covering the first ten
1145 months of the year 1928. For the first ten months of 1928 $2.26 was the average cost of a message to the subscriber or patron making the call. I have that computation.

(Paper marked for identification as City's Exhibit 21.)

1146 In City's Exhibit 21 the gross amount of the originating business for these ten months was divided by the number of messages involved in the ten months' business, and an average revenue per message obtained of $2.26. The first computation is the application to these messages or to this business of the rate of commission under the standard settlement basis which obtains outside of Chicago; 13.1 cents per message would be the commission given, and the total commissions under the standard contract would be $355,385.84 for this ten months' period. That amount is compared with the amount which we actually received under our working

arrangement, at the rate of 17 cents a message, of $486,649.61. This is for these same ten months of 1928, and the commission per message received in Chicago of 17.9 cents compares with the 13.1 cents to an exchange outside of Chicago.

The second computation is the application of the rate of commission where a local company does the operating, that commission being 41 cents a message. The commission
1147 on this same business for this same period is computed and is compared with the amount of our commission plus the reimbursement for operating the long lines business. That is our company's cost, and whatever profits it makes on it for which it is reimbursed by the American Telephone and Telegraph Company, and the application of these two items puts us on a basis comparable with a local company doing the operating. The comparison there is that our receipts would be 72.4 per message as compared with 41. As a matter of further comparison, or to determine the amount of revenue which comes to the Illinois Bell Company out of each of these messages, we have taken the total commissions as set up as part of the statement, the total reimbursement for operating and the amount of prorate (the third item is a small item of prorate for the use of lines other than long lines plant in Chicago for business going to some of the local connecting companies) and the amount received for the use of the long lines plant. These four items total $3,040,354.26, and are at the rate of $1.12 and a fraction per message, that being 49.57% of the gross originating business per message.

1148 Going back to $885,466.99 for 1923, that was not all of the revenue received by the Illinois Bell on account of the business of the A. T. & T. Company in Chicago. The amount of commission represented by the 5 cent credit during the year 1923 was credited to exchange revenue account instead of to account 510. That was $105,670. There was also the amount of the operating bill in Chicago of $1,214,331.59, together with that portion of the plant bill not ap-

plicable to account 510, the amount of which is $105,859.91. I think I have given you everything there.

Re-direct Examination by Mr. Bangs.

1152 I do not remember specifically whether the copies of letters setting forth various agreements regarding the 5 cents and the 12 cents were filed before the Illinois Commerce Commission in the proceedings here under review. There were a great many filed, and I feel quite certain these were among them. The re-classification entries made in the Byllesby & Arnold appraisal was some time during 1915, as of the date of the appraisal, which I believe was July 31, 1911.

1157 I think for the purpose of establishing the ratio set forth in Plaintiff's Exhibit 23 it is fairly a proper number of messages and a proper period. If we took more than two days I doubt if the relation would vary in any considerable amount. I have had occasion to compare statistics of toll usage based upon separate days with statistics based upon longer usage. I should say 1158 that a 10% variance would be the maximum. The exhibit covers the amounts which would be involved in settlements for the same business under what was different conditions, and I think the comparison is a fair case.

Re-cross Examination by Mr. Haight.

I think we have from time to time made computations similar to these computations relating to June 16th and 1159 June 19, 1922. It is quite clear in my mind that there establishing the ratio set forth in Plaintiff's Exhibit 23 it were similar computations made and testified to before the Public Utilities Commission and the Illinois Commerce Commission. I do not know of any such computations relating to the years 1923, 1924 and 1925, although we may have made them. It is my judgment that I am right within 10%. I mean 10% in either direction. Ten per cent in either direction is a possible difference of 20%, if you want to put it that way.

905 ALLAN B. CRUNDEN, having first been duly sworn as a witness on behalf of the plaintiff, testified.

Direct Examination by Mr. Bangs.

My name is Allan B. Crunden, my residence is Montclair, New Jersey. I am assistant comptroller for the American Telephone and Telegraph Company, New York. I entered the telephone business as a general bookkeeper of the Chicago Telephone Company in 1910. I was subsequently auditor of disbursements of that company and several other telephone companies in the Central West. Subsequent to that I was general auditor of the Central Union Telephone Company, also vice president of that company, and general auditor of the Ohio Bell Telephone Company. I entered the employ of the American Telephone and Telegraph Company in 1921 as assistant chief statistician. My present position is assistant comptroller.

906 My duties have required me, among other things, to be familiar with the cost of money to public utilities. I have maintained records of the cost of money generally and in individual cases. I have prepared a table on the cost of money to public utilities during 1923. I testified before the Illinois Commerce Commission in this case. I think it was about 1922.

Table marked for identification Plaintiff's Exhibit 16.

907 This table contains information regarding the issues of bonds and notes of public utility companies, where the amount of the issue was five million dollars or over, and it is taken from a much larger compilation which I made containing all issues of half a million dollars and over, that compilation being quite extensive. The present exhibit shows the name of the company issuing the securities, the type of the issue, the amounts, the interest rate—that is to say, the coupon rate—the price at the original public offering, and the yield at such offering. The yield shown is the yield to the first purchaser in the retail market, and therefore this

exhibit does not reflect the cost to the public utility company of syndicating and selling the bonds or other securities in the market. The cost to the company was in excess in every case of the amount shown in said exhibit, on the reasonable assumption that in every case there must have been some cost of selling the issue.

909 The Illinois Bell Telephone Company sold some bonds shown in this list. Under the month of June it shows that the Illinois Bell Telephone Company sold first and refunding mortgage bonds fifty million dollars. The coupon rate of interest was 5%; the original public offering was 95¼, equivalent to a yield to the purchaser of 5.3. The cost of the money to the company was in excess of that. In my opinion the cost of borrowed money to public utilities on well secured long term loans, during the year 1923, was somewhat in excess of 6%. I might mention that I drew up a graphical chart or histogram.

Document marked for identification Plaintiff's Exhibit 17.

Plaintiff's Exhibit 17 is the table I referred to. That 910 shows information regarding the yields at the original public offerings of public utility bond and note issues during the year 1923, and it covers all issues of which I was able to obtain a record of half a million dollars and over. At the side it shows the number of issues and at the bottom it shows the yields and the various issues are shown in the form of frequency distribution, and it will be noted that the average price comes between 6 and 6½%. There is competition in the money market between public utilities and other corporations for funds. The public utility companies have large requirements for new capital. One of their striking characteristics is great growth. I have a table showing the relative amounts of issues during the year 1923 of public utility and other corporations. The new security issues offered publicly in the United States of which I was able 911 to obtain a record for the year 1923 were for railroad securities, $503,701,000; for public utility securities $1,269,001,000, and for industrial securities $1,811,912,000.

The customary dividends upon high grade public utilities common stock in 1923 was 8%.

I have information available for the year 1923 showing the percent earned on investment of companies other than public utilities, such as motor companies and other manufacturing companies. For the purpose of determining what the rate of return on investment was on large well known manufacturing companies in 1923 I made a study, taking those manufacturing companies whose earnings were at least one million dollars per year. I did that in order to obtain the large representative companies. I took as the net investment the total assets minus all intangibles and the current liabilities.

The average investment for the year I arrived at by
912 taking the simple average of the net investment at the beginning and at the end of the year. For net earnings I took the amount remaining after all charges, including depreciation, and Federal income tax, so as to arrive as closely as possible at the balance available for interest and dividend. In the main the source of this information was Moody's Manual of Industrial Companies. This study shows that the earnings of some eighty companies comprised in the groups for motors, patented specialties, tobacco, shoe and leather, miscellaneous industries, metal products, electrical companies, chemical and related industries and heavy machinery, was for the year 1923 12.5%.

The highest earnings were on the patented specialties group, and that included such companies as Burroughs, Maytag, International Machine, National Cash Register, Remington Typewriter, Stewart-Warner, Timken Roller Bearing,
913 and Yale & Towne. (Mr. Bangs: "We have a good many patents here, some three thousand, I think.") The return on investments for that group was 21.6 in the year 1923. The lowest return was the heavy machinery group, which was 7.9.

The surplus in the operation of a public utility is the amount carried forward after paying its expenses and return on the investment. It is not possible to pay out annually all

of the earnings. There must be something kept over as a margin for contingencies. There must be something to serve as a buffer or reservoir to carry the company over periods of bad times or commercial depression, or anything of that sort that might otherwise cripple or destroy the business, or interfere with its growth. It is customary in all corporations to pay out only a reasonable proportion of the balance available for dividend, and to retain a portion in the business as invested surplus.

I have an opinion as to what would be a fair and reasonable return on the property of the Illinois Bell Telephone Company, used and useful, in the rendering of its ser-
914 vice in the City of Chicago under conditions prevailing in the year 1923, and for a period thereafter, in order to place its securities on a parity with those constituting other available investments of similar grade. My opinion is that 8% is a fair return.

Cross-Examination by Mr. Goldstein.

The return which I have calculated upon these other securities is one guide to my opinion upon a fair return.

915 My opinion is based on other considerations than the particular items I referred to here. The figures I gave as to the rate of return in these various classes of industrials was based on the property. I did not include in each case the equivalent of going value. I said that I took the net investment, consisting of the total assets minus the current liabilities, and excluding items of an intangible nature, because sometimes in industrial corporations, you find such items as good-will.

916 I took all the assets, therefore I took working capital. The assets were as shown by Moody's Manual for various corporations. I did not include any item of going value in any of those. I have a tabulation with me that shows the individual utilities assorted according to their respective groups. It shows the net investment, the amount of earnings

and the percentage. I was mistaken, it only shows the percentage. My working papers are in New York.

917 The amount of property was the amount shown in Moody's Manual as representing the official balance sheet of these corporations. I have no information as to how the property that was placed on those balance sheets was valued.

My memory as to the cost of the bonds issued by the Illinois Bell Telephone Company in 1913 is that it was 5.54.

918 I mean the 8 per cent dividend primarily was the declared dividend on the basis of par, but as a matter of fact, it happened to be fairly close to the yield to the holder of the stock in 1923. I know, as to some of those securities about which I testified as having an 8 per cent dividend declared, what the actual yield was. I think the A. T. & T. was selling somewhere in the neighborhood of $125. I couldn't tell exactly, I did not happen to bring that along.

921 I have some statistics here as of December 31, 1923. I took that date because it was a very easy one to get figures for. The Edison Electric Illuminating Company of Boston, paying a dividend of 12 per cent, the yield was 922 7.38. The Blackstone Valley Gas & Electric Company, on $50.00 par, was paying $5.00. The yield was 6.73. The Brooklyn Edison Company, on $100.00 par, 8 per cent dividend, yield was 7.22. The Columbia Gas & Electric Company, no par value, yield 7.38. The Consolidated Gas Company of New York, no par value, 5 per cent dividend, yield 8.13. Detroit Edison Company, 8 per cent dividend on par, yield 7.62. The Laclede Gas Company, down in Missouri, yield 8.86, etc. I have a great number more, but guess that is enough. The Commonwealth Edison $8.00 dividend on $100.00 par, yield 6.20.

I have never made a calculation to determine what 8 per cent on the property of the Illinois Bell Telephone Company would yield on the stock.

923 In order to determine what is a fair rate of compensation on the money that the investor invests, you have to

consider the risk and hazards of the business. You consider the location so far as it depends upon the risks and uncertainty of the business. Also, the rate realized on equally stable investments in the same community. The legal rate of interest in the locality might easily be considered. The money market and business conditions generally must be considered, the financial condition of the particular utility, and

all of these questions which relate to the general cost of
924 money. We are talking about the relation between investors and the corporation to which they entrust their money for investment. Therefore, in purchasing securities, the cost would vary according to the factors that they might consider, such as the financial connections of the utility and

the management and operative experience of the utility.

925 The man that invests money in bonds is limited to a fixed income, and he expects to receive that income. Along with that, he expects safety of principal and ease of marketability. Now, the man that invests in stocks becomes an owner. In the sight of the law, he is an entrepreneur, although he may not know that very often. What that man looks at is not merely dividends but the general profitableness of the enterprise. In the eyes of the law, he is a speculator if he is a stockholder. There is no getting away from that to a

certain extent.

926 I am not familiar with the insurance business.

If the investment is made in order to enable the investor, through his relationship with the company, to derive revenues either by selling merchandise or selling of service, I cannot say that that is a factor that has any bearing on the determination of what is a fair return.

It seems to me that we must judge this by the general cost of money so long as we are dealing with the cost of money, and if we are dealing with the cost of capital to a particular company, we are confronted with a fact easily ascertainable. If we are dealing with fair return, we must confine ourselves

to the fair return. There are three distinct concepts there.

929 I think that fair return may differ in different parts of the country at different times, but the range of difference is not likely to be very great, and that a fair return remains fair for a longer period over a wider territory than might be supposed from your question.

930 The fair return does not seem to me to be tied directly to a particular case. The cost of money, as I use the term, means cost of money in general to all those that seek money in the money market. If you mean the cost of capital to a particular company, obviously, that is intimately conconected with the circumstances of that company.

931 I am talking about money as a commodity. Money is a commodity that is bought and sold, the same as boots and shoes, in the money market. There is a cost of money the same as there is a cost of boots and shoes. When I use the term "cost of money" I mean it in a sense when a particular enterprise has to finance, they have to acquire certain capital, which creates a certain cost to them. I call that cost of capital to that particular company because they are going to take this money to use it as capital. A fair return is something else again.

The cost of money as I discussed it in my direct examination was the amount that the company had to spend in order to get the securities in the hands of the investing public, so as to create the yield I mentioned that these investors received, but I generally use the term "cost of money" in that connection to include sufficient margin for surplus to insure the regular payment of the ordinary dividends.

932 In relation to bonds and notes, I use the term "cost of money" to mean that expense which the company had to undergo to pay the underwriters, plus whatever other expense was necessary in order to get it into the hands of the first investor, but not all of the money of a public utility can be obtained by the issuance of bonds and notes. As for stock, it is necessary to pay such dividends as will support the stock

in the market, and have a margin for surplus to insure the continuance of dividends. The degree of fluctuation in the business, the degree of stability of earnings, have an effect on the cost of money or the cost of capital. The relative percentage of bonds to stock, and the amount of depreciation reserve, might have an effect upon the cost of money or the cost of capital.

933 I take it, the public has only a very limited choice between the service which the telephone utility furnishes and other similar service which can be substituted for or used instead of the telephone. I do not know that it is more limited than in the case of railroads. It might be a matter of opinion, but I would say it is more limited. I should not say it is more limited than in the case of gas and electric light utilities. It is true, you can substitute to a certain degree gas for electricity, and *vice versa*. As of 1923, there was a substitute for the telephone. That was the telegraph.

934 Confining yourself to spoken speech, there is not any competitor of that kind. It is a fact that the Bell System alone furnishes a nation-wide telephone service which no other telephone utility will furnish. The telephone business increases in times of business depression. It does not grow at the same rate that it grows in times of business expansion, but it always increases. So far, it has always increased. Its normal growth is not limited to a great extent during periods of depression.

935 I don't think it is true to the same extent in other businesses. I think our business is characterized so far by exceptional stability. Hitherto the telephone has not varied as much from its normal growth as compared with the fluctuations of general business. This fact means that a lower margin of surplus earnings is required in the telephone business than would be safe in the general industrial world or in other business. That, of course, is reflected by the fact that in the industrial institutions, it is customary to carry a surplus almost equal to the capital stock. The statistics of the

Income Tax Bureau show that for each $50.00 of capital stock, there is about $40.00 in surplus.

937 I haven't had occasion to go into the relative fluctuations in the market price of the stock of the American Telephone and Telegraph Company during the last fifteen years, as compared with Liberty Bonds, bonds of rail-
938 roads, or stocks of other utilities. I think an intelligent investor looks at both the size of the return on the money that he actually invests and the rate of return to the company on a certain method of valuing its property. I think the majority of investors are intelligent investors. As to those investors whose actions largely control the investment habits, I think they also go into the method or basis upon which the property was valued and whether that was book cost or included going value. I want to make clear that there are very many small investors who sort of follow the lead of the others, and it would be easy to pick out hundreds of thousands of
939 investors who do not do that specifically. I think that the intelligent investor goes into the matter of the rate of return, going value, omitted overheads, working capital, and whether it is the book cost or the reproduction cost, and all that sort of thing when he makes those investments. I think there are two principal factors; one is the minimum rates which may be imposed upon the public utility by law are such as allow it to pay its reasonable operating
940 expenses, including depreciation and provide for a reasonable return on the fair value of the propty. I think the intelligent investor understands that, and that the investment houses lay stress on that. He takes that into account when he make his investment. Another thing is that there are a certain amount of business profits in all industries, whether it be public utility or others, that has made a place for itself in the economic life of the community, and I think the reasonable investor takes into account that a well conceived public utility has a measure of profitableness over and above the bare cost of the money. I think he is quite apt, in judging his investment, to calculate the relative value of those items in one util-

ity as compared to another. It is very much like a woman making bread. If I were to describe to you the chemical
941 process involved in making bread, that is extraordinarily intricate, but any housewife can whip up a batch of cakes for breakfast. It is the same way about this investment business.

I don't believe there is any such person as this average investor. I think all individuals act according to their own temperament. One person might do all the things you mention. Another might do some of them. A third might follow the advice of some one else. I have already said that I think the majority of investors act in the same way. I don't
942 think that the fact that the public utility franchise either has expired of is about to expire has much effect in a case where the service is of vital and indispensable public service which would have to go on. I don't know how that would be legally. I don't think it has any effect on what is a fair rate of return. The percentage of bonds or credit obligations to capital obligations does not affect a rate of return.

The average investor who puts his money into a business may take into account the fact that the purchasing power of a dollar may vary from the time the investment is put in
943 until the time he gets it back. As to whether the majority of investors when they put money in take that item into account, my answer would have to be the same as my previous answer: that the great majority of people form their investment habits on the investment habits of the more intelligent ones. Everybody knows if you put money into bonds you receive a fixed return, and if the price levels change you gain or lose by that process. That is something everybody knows. If your investment is in the form of stocks, then you are an owner in the business, and the value of the business may increase or it may decrease, due to various causes, one of which is possible changes in price levels. The return on investment in credit obligations and on investments in the form of stock are matters that are determined by the in-
944 vestment market, and not by academic reasoning on the subject.

Assuming the fact that the investor through the investment is able to restrict and confine the buying and replacing of equipment and property of the company in which the investor makes the investment, so that all of such purchases thereafter are purchased from the investor at profits determined by
945 the investor, that fact would not have any effect on the fair rate of return. I don't think the fact that the invest-
947 tor has patents and patented articles which the company would use after such investment, and from which the investor would derive actual revenues, has anything to do with what constitutes a fair rate of return on the value of the property. It might have something to do with the attractiveness of the stock investment to the investor. I would have to know the particular circumstances. The fact that he could by purchasing the control of the company have the company use the patents and patented articles would not have any
949 effect. For the first time I understand your question, which is: "Would the fact that an investor would be enabled to derive revenues through getting the company in which he makes the investment to use his patents affect the attractiveness of the investment to such investor?" The man there would not be in the situation of an investor, and I don't think you could speak of him as such.

STATEMENT OF MR. BANGS.

On Expense of Depreciation.

953 If the court please, the next branch of the case has to do primarily with the expense item entitled "Depreciation of Plant and Equipment." It also covers in a smaller degree the question of the general operations of the company during the year 1923.

I think it would be of value to the court if I stated the present legal situation of the subject, since the status has been changing rapidly and there is involved in the evidence a question of law.

By the uniform system of accounts for telephone companies, which was effective January 1, 1913, under the statute which conferred jurisdiction on the Interstate Commerce Commission over the question of accounting for telephone companies, the Commission prescribed the method of accounting that should be used for the depreciation expense. That method of accounting has remained unchanged up to the present time. The item is covered on page 67 of the Uniform System of Accounts, in paragraph 23, entitled "Depreciation of Plant and Equipment."

Now, this method of accounting has been in force continuously since 1913. There has been no change, although changes are contemplated. We will come to that later. This is the provision:

954 "Telephone companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate reserves to cover the expenses of depreciation currently accruing in the tangible fixed capital.

"By *expense of depreciation* is meant—

(a) The losses suffered through the current lessening in value of tangible property from wear and tear (not covered by current repairs);

"(b) Obsolescence or inadequacy resulting from age, physical change or supersession by reason of new inventions and

discoveries, changes in popular demand, or public requirements, and

"(c) Losses suffered through destruction of property by extraordinary casualties."

Now, the next sentence is the thing that I wish to accentuate:

"The amount charged as expense of depreciation should be based upon rules determined by the accounting company. Such rules may be derived from a consideration of the company's history and experience.

"Companies should be prepared to furnish the Com-
955 mission, upon demand, the rules and a sworn statement of the facts, expert opinions, and estimates upon which they are based."

What is the status of this expense under the accounting rules?

Before discussing that I would like to tell the court the changes that have taken place in the legal situation.

Congress, under the Transportation Act of 1920, added to the powers of the Interstate Commerce Commission over depreciation accounting, not only for telephone companies but for railroads. And Section 435 of that Act provided that the Commission shall, as soon as practicable, prescribe for carriers subject to this Act, all classes of property for which depreciation charges may properly be included and the percentages of depreciation which shall be charged with respect to each such class of property.

Now, that gave the Interstate Commerce Commission power, and in fact said that it should, as soon as it could do so, prescribe the depreciation charges. To that extent it gave the Commission the power to change the accounting rules,
956 which it has not done up to the present time, because under the accounting rules the company was to fix its depreciation rates. The amount charged to expense of depreciation should be based upon rules determined by the accounting company. Under the Transportation Act, which

has not become effective by the action of the Commission, the depreciation expense would be fixed, not by the company, but by the Commission.

On March 18, 1920, the Commission issued an order which, after quoting Section 435 of the Transportation Act, stated as follows:

"Information received by the Commission indicates an existence of doubt as to the propriety of carriers making any charges for operating expenses, with respect to depreciation, prior to such time as the Commission shall prescribe specific percentages.

The purpose of this circular is to dispel any such doubt until the Commission shall otherwise order.

All carriers subject to the Act to regulate commerce should continue to observe the requirements respecting the ac-
957 counting for depreciation which are embodied in the effective accounting classifications prescribed by the Commission."

In other words, the Commission said: "Prior to the time that we determine the rates of depreciation for carriers, which includes the railroads and telephone companies, the accounting rules are to be carried out; and under these accounting rules the depreciation expense is to be fixed by the company, not by anybody else."

I think that is conclusive in this case, in the absence of fraud or arbitrary action on the part of the company. Though we are dealing in this case with intra-state rates, the Interstate Commerce Commission's jurisdiction extends over all the property. That very question was argued by the Association of Public Utility Commissions against the jurisdiction of the Commission, but the Interstate Commerce Commission has taken the position that it has jurisdiction over all the
958 property. The Supreme Court of the United States has squarely decided in the matter of accounting, for example, in the Great Western case that the jurisdiction was there.

Then the second point, of course, is—which disposes of the question of exclusive jurisdiction—that the accounting rules of the Illinois Commerce Commission are the same as the accounting rules of the Interstate Commerce Commission.

I do not propose to argue the question of exclusive jurisdiction of the Interstate Commerce Commission. I think it exists. It has never been decided that it does exist,
959 and Judge Page held to the contrary in the Indiana Bell case. I am not going to argue it, because I do not think it is material to this question whether the jurisdiction is exclusive or not. The point is that, under the accounting rules of both the Interstate Commerce Commission and the Illinois Commerce Commission, the expense of depreciation is to be determined upon rules determined by the accounting com-
961 pany. That expense of depreciation is determined upon what basis? It is determined upon ascertaining what the average life of each class of property is, what the salvage value is, and computing a composite rate, which has been approximately five per cent. The officers of the company, who are familiar with the property, are required under these accounting rules to exercise their judgment, and upon the basis of the company's experience determine the average life of the property, determine the salvage value, and make a mathematical calculation, which results in a composite rate.

Now, the Court cannot do that.

962 I am taking a stronger position than the matter of evidence. Our company is required, under these accounting rules, to exercise their judgment as to the average life and the salvage value, which results in the composite rate. My point of law is this—and it is sustained by authorities—that in the absence of arbitrary action on the part of the company officers or fraud, that that expense must be allowed.

The Court is not sitting here to determine that expense.

963 Now, coming to the second legal situation: After the entry of this order, the Interstate Commerce Commission issued a tentative order, in which it prescribed the ac-

counting methods it was going to use in determining the depreciation rates. Mind you, under this Act of Congress this Commission assumes the jurisdiction under that statute, and is told to exercise the jurisdiction to itself fix the rates. That tentative order is subject to a petition for a rehearing by both the railroads and telephone companies, and is now on rehearing, so that the existing status of this proceeding—and this is the reason I am explaining this now and not arguing the case—the existing status of this proceeding is that the accounting rules are in force; that the Commission, although it has had conferred on it the jurisdiction to fix the rates, has not fixed the rates, has not finally determined the method by which it will fix the rates, but has prescribed that carriers subject to this Act shall charge this expense monthly under these accounting rules.

964 Now, that is the existing legal situation, and the evidence and the nature of the evidence on the subject could not be understood, and the extent of the cross examination could not be understood without that explanation, and that is the reason I am making it.

964 Order of the Interstate Commerce Commission, dated March 18, 1920, marked for identification as Plaintiff's Exhibit 18.

967 F. O. HALE, having been first duly sworn as a witness on behalf of the plaintiff, testified:

Direct Examination by Mr. Bangs.

My name is F. O. Hale. I live in La Grange, Illinois. I am now vice-president of the Illinois Bell Telephone Company. I graduated from Dartmouth College in the year 1903. I entered the employ of the Associated Bell Tele-
968 phone Company operating in western Pennsylvania, with headquarters in Pittsburgh, in the fall of 1903, and stayed there until 1909. During that time I was engaged in the work of the traffic department, and finally became general

traffic superintendent. In 1909 I entered the employ of the American Telephone and Telegraph Company as an engineer, whose duties related to traffic and operating costs and traffic performance. In 1912 I became chief engineer of the Southwestern Bell Telephone System that furnished service in Missouri, Kansas, Arkansas, Oklahoma and Texas. Then I became general manager of the Missouri part of that company,
and later the states of Missouri and Arkansas combined.
969 April 1, 1921, I came with the Illinois Bell Telephone Company as chief engineer and held that position until February 21, 1922, when I became vice president and general manager. On March 1, 1928, I became vice president in charge of operations. The present organization of the Illinois Bell is divided into two areas. The City of Chicago constitutes one area, and the rest of the territory in which the company operates constitutes the other area. Each area is in charge of a general manager, with a complete operating organization under him.

My duties after I became vice president and general manager were general supervision of the operations of the company—general supervision and direction of them except-
970 ing the accounting and financial. By virtue of my position I am acquainted with the policy of the company as to construction, maintenance and operation of its properties. That policy, very briefly, is to furnish the most and best telephone service for the least possible money for operating. We have done the best we could in that since 1922. It is my duty to supervise the operating expenses of the company, and I have knowledge of them. I am familiar with them. A part of my function is to see that the operating expenses of the company are fair and reasonable. I think that purpose has been accomplished since I became vice president and general manager.

The statement of Mr. Bangs on the legal situation as far as the jurisdiction of the Interstate Commerce Commission is concerned over the expense of depreciation, and the order of March 18, 1920, is my understanding of the situation.

971 I understand the Interstate Commerce Commission requires the company to file an annual report, showing, among other matters, the rate and amount of depreciation of the company charged during the preceding year, and it is
972 my belief that the company has fulfilled that requirement.

The company fixed during the year 1921 certain rates of depreciation for the different classes of its property, and made them effective for the year 1921 and continued them in effect through 1922, and they were in effect during the year 1923. For the year 1923 the amount of depreciation charged in the City of Chicago was $4,480,954, and the rate of depreciation charged which produced that amount of money, based on the average plant and equipment in service during the year, excluding land and right of way, was 4.926%. That is the per cent of the average plant and equipment in service by the company during that year, excluding land and right of way.

A rate of depreciation is fixed for the separate classes of property, and means that a separate rate applies to build-
973 ings and another rate to central office equipment, and another rate to exchange pole lines, for illustration. There is a separate rate applying to each class of property. The mathematical computation is this: The average investment in each class of property during that year is taken from the books and the rate of depreciation applying to that class of property is applied to the average investment in plant in that class, which gives a certain number of dollars that has to be accumulated during that year to meet the depreciation on that class of property. That is done successively for each class of property. Then by adding up the total amount of depreciation required and dividing it by the total of your investment in the classes of property, you get a weighted rate of depreciation. That is purely a mathematical computation. It may vary in different years when you apply the same rates of depreciation to the different classes of property because your investment in each class of property changes from year to

year, which produces a slightly different weighted result.
974 It may or it may not. It is a coincidence if it does not, usually. More often the weighted rate of depreciation applying to the total property does slightly vary.

As to the different classes of property you have to determine the life and the net salvage, which will be obtained when any property is finally disposed of. By net salvage I mean the gross salvage less the cost of taking the particular item of plant out of plant. You have a pole set in the ground, and you have to go and take it out, and it costs money to do that. The same is true of central office equipment, substation, or almost any other item of plant. You determine the average life and net salvage for each class of property, and that results in a percentage for that class of property, and the composite percentage is simply a composite of those different percentages.

I have a table of depreciation by classes of plant.

975 Document marked for identification as Plaintiff's Exhibit 19.

The exhibit has a notation "Effective January 1, 1921." I have already testified that it continued in effect through 1923. The first column, entitled "Class of plant," are those classes of plant enumerated in the accounting rules except certain classes of plant have been further subdivided for the purpose of separately determining the life and salvage on those
976 classes of plant. If you take the composite rates by accounts, over on the right hand side of this table there is a separate composite rate for each class of plant by accounts. That will show you by inspection which are sub-classifications. For instance, buildings have been subdivided. There is only one account for buildings under the Interstate Commerce Commission rules, but that account has been subdivided into fireproof buildings, fireproof central office buildings, and non-fireproof buildings, for the purpose of separately determining the life and salvage as applying to those different classes of buildings. The next column after that—"Life in Years—" means the life in one place which we expect in this table would

be experienced. For instance, on the average fireproof buildings we expect to get an average life of forty years. In the next column, entitled "Salvage," we anticipate there as
977 to buildings a salvage of 40%. That is for fireproof buildings other than central office. That is net salvage, as I have previously explained. Then the forty year average life and the 40% net salvage is composited into a rate of 1.5. That is a simple mathematical process. If you deduct your salvage from 100 you have a 60% wearing value net; divided by your basis gives you your rate of depreciation per year.

The objective of depreciation is to determine the amount of dollars per year which must be accumulated so that at the end of the life of the property now in service you would have accumulated an amount equal to its original cost. The ac-
978 counting rules require that, so we have to, and had to consider in fixing these lives, the property presently in the service. In arriving at that estimate of life and exercising our best judgment in regard to it we did use such data and such information as we had as to the history and experience of the company with those classes of property. Then we had to consider as a matter of judgment what might happen in the future. I do not think any depreciation rate can fairly and under the accounting rules be based entirely on what has happened in the past. This subject is being continuously studied by the company. There are several people engaged in that study. In determining my judgment as to the net salvage, we took such history, such experience as we could get from the
979 company's books, applied to that our judgment and experience as to what would obtain in the future as to the plant presently in service.

The matter of the determination of the depreciation rates for the different classes of property is not the result of an application of mathematical formula. In my judgment the proper depreciation rate cannot be determined on the basis entirely of past performance. As to past performance, it is not possible, in respect to every class of property, to determine from the data which the company has or had in 1921 the

actual results of past performance. It is possible in respect to some classes of property, and not as to others. After having determined the result of past performance as to classes of property in cases where it is possible to do so, it is necessary to apply corrective factors to that determination. You must know something about the conditions that obtained during
980 the past, and as you are determining a rate for plant applying in the future, you have got to consider your existing plant and what the future holds as far as you can. You must exercise your judgment and experience regarding that.

It would be very difficult for an accountant, being familiar only with accounting, to determine from the books of the company either an exact basis of past experience or any possible basis for anticipating the future. I don't see any possible basis for anticipating the future, and being purely an accountant and knowing nothing about the telephone business and how it is conducted, I doubt if he could as to the past. I don't think a person who is not an accountant and who had no knowledge of the telephone business and its actual operations could
981 fix a depreciation rate that would be accurate, or as dependable as could be fixed by a man having knowledge of the business and experience in it. You ask if he could fix a rate. He could pick one off the shelf somewhere, as far as picking a rate is concerned. He could approximate the rate. He could tell whether it is reasonable judged by the standard of what had been fixed by the Illinois Commerce Commission in other cases and by other commissions, but the actual engineering determination and operating determination of this rate
982 would have to be done by an engineer. I think he should have engineering experience, operating experience and accounting experience. That man who is determining it should take all those factors into account and get all the information that he could.

984 For the year 1924, the composite rate of depreciation was 4.595 and the amount $4,709,950. For the year 1925 the rate was 4.694—these rates are percentages—and the amount was $5,385,712.

"Mr. Haight: For any years subsequent to 1925, we object for the reason set out in our opening statement."

985 Objection overruled.

For the year 1926 the rate was 4.767 and the amount $6,203.022. For the year 1927, the rate was 4.793, and the amount $6,839,392. For the year 1928, the rate was 4.850 and the amount $7,641,461. The amounts of money charged in each of the years from 1923 to 1928 by the Company for the expense of depreciation in the operation of its Chicago property were determined in accordance with the accounting rules of the Interstate Commerce Commission and Illinois Commerce Commission. They represent the best judgment of the Company of the expense of depreciation for the years in question.

By expense of depreciation, we mean the expense that is involved in giving telephone service due to property being taken out of the plant because it is no longer useful. Now

986 three or four main causes of that are wear and tear, a thing may wear out, an item of plant may become obsolete, may become inadequate, it may be injured by storms or other casualties; and the expense involved is the expense of the loss of that plant, less any net salvage which you may get after you have moved it from the plant, get it in shape to dispose of it as junk or any way in which you can dispose of it. That net salvage may be either black or red, depending upon the type of plant.

The purpose of this method of determining depreciation is to allocate to each year the loss and expense on account of depreciation, so that it may be charged against the subscriber as he gets service from that plant. It is to spread that expense over the useful life of any item of plant. By expense of depreciation I do not mean the number of dollars involved at the time the plant is physically removed from service. Now it has been useful for a certain length of time and the expense

987 of depreciation means the expense that is involved through the loss of that plant spread year by year over its useful life.

The method I used to spread that expense evenly over the life of the property is the method that has already been described, by determining the life of the property, what the net salvage will be and then the annual rate of depreciation. The result of the application of that method is to spread the expense evenly over the life of the property.

I am familiar with the finding of the Illinois Commerce Commission in its final order in Case No. 11894, which states that "A fair allowance to take care of maintenance and retirement charges for said property in use as of December 31, 1922, is $7,869,400, and that this sum, plus 8¾ per cent of all additions and betterments will be sufficient and adequate to permit the Illinois Bell Telephone Company to properly maintain its Chicago property."

988 I have an opinion as to whether or not by that order and finding, the Commission made an allowance which is proper and adequate for the expense of depreciation, and, secondly, whether that order made an allowance for the expense of depreciation as provided in the accounting rules of the Commission.

"Question: Will you state your opinion?"

"Mr. Clausen: I object, if the Court please. I think they ought first to determine what the Commission found, if he can, from this witness and what it had under consideration."

989 Objection overruled.

I do not think they had determined the proper expense of depreciation because, in making that finding, as I understand it, it was based on retirement. I mean by retirement the amount of property that was taken out of plant in any one year. This was a sort of an average of retirements over four or five years previously. Now, your retirements are no measure of the expense of depreciation in a growing plant.

990 They cannot be, in the very nature of the situation.

As an illustration, as I remember the growth of the Chicago exchange, there was something like fifty million dollars

in plant in 1916. I may not be exactly right, round figures are what I have in mind. That had doubled by the year 1923, and by the year 1926 or 1927, another fifty million dollars had come in, and by the year 1930 there will be another fifty million dollars. A very rapidly growing plant. There is no question of the fact that the plant has a certain life. Now your retirements, if it has a certain average life, your retirements in another year, must be related to the plant, and if the life is 12 years, to the life you had twelve years before. Therefore, your retirements cannot meet your expense of depreciation that is going on when the plant is two or three times as large. Approximately, the retirements when we had $150,000,000 worth of property should be related to the time when we had $50,000,000 worth of property.

991 This method of allowance to take care of maintenance and retirements would not create any reserve, because it is based on your retirements. As a matter of fact, there was an allowance here made of 8¾ per cent for the future. I do not know exactly whether that would result in a reserve or a deficit, but it is self-evident, it seems to me, just on the statement of the case, that there could not be any reserve that was anywhere near adequate.

As to the second part of the question whether this is in accordance with the Illinois Commerce Commission's own rules, it certainly was not. The rules have been stated here. They require the spreading of the expense of depreciation over the useful life of the property. Maintenance is entirely a separate expense from that of depreciation. Maintenance expense represents the cost of keeping the property in good operating condition. It is current repairs.

992 The accounting rules are very explicit as to any confusion between these two accounts. The expense of depreciation is charged to Account 608 and is a concurrent credit to reserve Account 102. When plant is taken out of service, the amount of that plant is charged to Account 102. It is the difference between the debits and credits to account 102 that results in the depreciation reserve.

For illustration: A plant cost $400,000, and the rate of depreciation had been fixed at 5 per cent. You would charge
608 with 5 per cent of $400,000 or $20,000, and at the
993 same time you would credit Account 102 with $20,000.
I am assuming this as for one year. Now, if during that year, you displace $10,000 worth of property, that was chargeable to depreciation, against Account No. 102, leaving a balance in that account of $10,000, which would be the reserve at the end of the year. Now, if the next year, you had twice as much plant, your charges to Account 608 would become $40,000, or 5 per cent of $800,000. Displacements that year might become $15,000, so that your credits to Account 102 that second year would be $40,000, and your charges against it would be $15,000. That would leave you with a balance of $35,000, for your reserve, if my computation is correct. That illustrates the method. That is my 5 per cent depreciation gives an average life of twenty years. I am talking of 5 per cent depreciation, and not 5-year life.
994 The service which was being rendered by the plaintiff in the City of Chicago in 1923 was a very good grade of service. The condition of the property was very good and fully maintained.

994 *Cross-Examination by Mr. Goldstein.*

I am familiar in a general way with the finding in the final order of the Public Utilities Commission entered December 20, 1920, in consolidated cases 9291, 8672 and 10879, as follows:

> "The Commission finds from the evidence that additions to the depreciation reserve in excess of the actual requirements for replacements should not be made under present conditions and that an annual allowance of $2,000,000 plus 4 per cent of the net annual additions to plant made hereafter will be adequate to provide for the necessary reserve for depreciation as to the property of the Company devoted to the furnishing of service in the City of Chicago."

996 (A certified copy of said final order offered and admitted in evidence as Plaintiff's Exhibit 20.)

997 I do not think that the Illinois Bell Telephone Company has followed the findings as to the expense of depreciation contained in that order from December 20, 1920 up to and including June 30, 1923. The computations I have presented on this hearing were not based upon the findings of the Commission in that case. I don't think the Illinois Bell Telephone Company at any time after December 20, 1920 followed this order in connection with this depreciation allowance.

Depreciation is the expense due to loss of plant after it
998 has lived its useful life. I am using the word "depre-
999 ciation" as the expense of depreciation. "Expense of depreciation" and "depreciation" are used in two different senses. By "depreciation" we refer to the depreciated condition of the property—per cent condition of the property. We use the word "depreciation" other than as a part of the clause "expense of depreciation." We are not always technical as to the way we use it. Sometimes
1000 we refer to expense of depreciation; sometimes we refer to per cent condition of the property. I have tried to explain that it is sometimes used as referring to the difference between the 100 per cent condition and the condition that the property may be in at a given moment. It represents that loss and difference. It usually applies when used in this sense to the difference between the reproduction new and its present condition, that is, reproduction new and the valuation at any particular time while it is still in service. The loss in
1001 value of a given unit of plant between the time it is acquired and the time when it is no longer useful and is disposed of is "expense of depreciation." I call that expense of depreciation. The loss which is realized by the Company, being the difference between the original cost of the unit and the net salvage value at the end of its service life, is the wearing value.

1002 I designate the difference in value between a new pole and a pole which has been in service for two years as a 1003 per cent condition. You would be talking about the per cent condition that pole was in at the end of the two years. The difference between 100 per cent condition and the condition you will find at that time is usually handled by stating the percent condition that the pole is in at that time. Assuming the per cent condition of a pole at 100 per cent when installed and at the present time 90 per cent, no designated name for the 10 per cent occurs to me at this moment. I think some people refer to it as "existing depreciation." I might. I would not quarrel with that statement of it.

1005 I don't know whether there is a loss in the value of the pole at the end of the two years that the pole has been in service. I would have to inspect the pole to find out. The only basis on which I would determine whether there was a loss would be by inspection.

1006 By the term "property is retired" I mean when it is retired from the service in one location. I have meant that when talking about the expense of depreciation so far. I claim that the Plaintiff should be allowed certain depreciation rates for the purpose of creating proper and adequate reserves which will equal the original cost of the property plus the expense incident to retirement, less the value of the 1007 gross salvage by the time the property is retired. That goes to its ultimate retirement.

The statement that the Plaintiff should be allowed certain depreciation rates for the purpose of creating proper and adequate reserve equal to the original cost of the property plus the expense incident to retirement, less the value of the gross salvage by the time the property is retired, means its ultimate retirement. I claim that these depreciation charges that I stated should be set up are to be considered a part of the operating expenses.

1008 In accordance with the rules of the Commission, it is necessary to accumulate these reserves during the life

of the property, in order to have at the time of retirement adequate reserve equal to the original cost of this property, less its net salvage. We don't accumulate the reserve against each individual pole. Taking the plant as a whole, if there had been no displacement during the first three years of operation, the reserve would be the sum of the annual
1009 charges for depreciation. There is no individual reserve for individual items. There is one reserve for the whole plant. In the example quoted the reserve set up on the plant at the end of the three years, is the expense of depreciation during those three years. The Illinois Bell Company does not have several methods in use for the purpose of accumulating reserves during the life of the property. It uses the method we have just been describing.

1012 We determine the life and the net salvage, and from the determination of those two figures we determine by a simple mathematical process an annual rate of depreciation, or the annual rate which covers the expense of depreciation, and that is applied to the investment.

If $4,480,954 was the expense of depreciation for 1923, that is the method used in arriving at the figure. I consider that a real expense to the Illinois Bell Telephone Company.

Lead pencils and brooms are short-lived supplies and are charged to expense as they come out of supplies. If you
1013 assume an automobile is used up in five years and has no salvage value at the end of the five years, the expense of depreciation on that would be 20 per cent for each year. I am not positive about the case of the lead pencils. I am inclined to think they are charged to expense when they come out of supplies. It is assumed they are going to be used up, and there is no use bothering with them any more. I think it is charged directly to expense—I am not sure about that.

In the case of the automobile, we would charge against the depreciation account one-fifth each year, and credit it to the reserve account.

1014 I doubt if we inventory lead pencils.

We don't make an inventory annually. We make an

inventory of our automobiles and things of that sort, other than our fixed plant, when it is necessary to determine
1015 the value of our property—usually for rate case purposes; it might be for some other purpose.

I might give different names at different times to the amount of depreciation which actually results at the time when the particular unit of property is in fact taken out of service. I would expect to give it a name so that whoever I was talking with would understand what I was talking about. I have no fixed terms for some of these things. It is sometimes called "realized depreciation." I don't say you determine it. That property has been taken out. It has lived its useful life and is gone. There is a certain net salvage there, either
1016 red or black, depending on the type of the property. If the property retired cost $1,000 and the net salvage was $100, the $900 would be the depreciation actually realized on account of that property.

In determining the depreciation rate I took into account several matters, such as wear and tear. Wear and tear is an item affecting depreciation expense. In determining the depreciation rate you are determining the rate applying to the plant presently in service and to continue in service. In determining what that rate should be, we took into account our best judgment as to what the life of that property would
1017 be. Our best judgment was based on the past experience of the Company. Based on my past experience of the business, my general knowledge of the business, based partly on my knowledge of what was to happen in the immediate future, and based on the whole sum of the factors affecting the property, as far as we could take them into account. We take into account the fact that gradual deterioration would be one of the causes which would finally retire the plant. We fixed a depreciation rate for pole lines. We took into account the past history of the particular units of the property in so far as we knew the past history of the Company. We took into

account obsolescence, or the probability of obsolescence,
1018 as one of the factors that would finally operate to retire the property. We took into account the public requirements and storms or other casualties that would finally operate to retire the property. All those items I took into account in the determination of the depreciation rates as causes for finally bringing about the retirement of the property. We did not take those items into account in determining the $4,480,954 expense of depreciation in the year 1923, and I have already described the way that was determined. In estimating our life that would apply to different items of property we took into account those items as being factors which would operate to bring about the retirement of the property. We took into account the life of the property in connection with our calculation of $4,480,954. We did not separately determine in our computation of $4,480,954 for 1923, how much of this
1017A charge was due to wear and tear or to any of these particular items. In fact, that computation of $4,480,954 is the result of applying a percentage which represents the annual expense of depreciation against the property on our books. In arriving at the percentage we took into account all of the factors which terminate life. These items are factors. We did not ascribe separately any part of this aggregate amount to these particular factors. I do not know how much was taken out of the reserve for the year 1923 for realized depreciation of the plant and property taken out of service because of wear and tear.

1018A I do not know of any way that I can determine that. I don't know that I would say that the realized depreciation due to actual wear and tear is a relatively small item. It is not the major factor. I don't know how it compares with obsolescence. I have never made any computation to determine exactly how it compared with obsolescence. I have no idea that I can state quantitatively and exactly as to the relative importance of these various factors in terminating the life. Obsolescence and inadequacy taken together I think

exceed considerably the items of wear and tear. That
1019 would be my general judgment. I have never made a study to determine the relative importance of any of these individual factors in terminating the life of the property. The officials of the Illinois Bell Telephone Company who helped in the determination of this $4,480,954 expense for depreciation in the year 1923 considered these factors all together. I don't know whether any other officer of the Company has made any special study on that or not. It does not seem to me that it is particularly pertinent. The factors that bring about obsolescence are the development of the art. The factors that bring about inadequacy are the factors of growth in a given community, and it is very different in one town than in another, and it is different in parts of a large city like Chicago from other parts. I did not make a study of the relative importance of these factors in connection with the Illinois Bell Telephone Company plant in the City of Chicago for the purpose of determining them separately.

I don't remember fully whether I used the same rate in determining the life and salvage and depreciation rate for every town in the State of Illinois and the other parts of the Illinois Bell Telephone Company territory that I did
1020 in Chicago. On certain items of property we did and on certain others we did not. Part of that was brought about by the subdivision of these accounts in determining life and salvage separately in the subdivision of the accounts and then that property would appear in different proportions in different parts of the State. The tendency generally has been to differentiate between Chicago and the down-state territory as we saw reasons for doing so. The rate I applied to each subdivision or class of property was not the same throughout the State of Illinois. You take the buildings item in this table which has been introduced here. That was separated into fireproof buildings, fireproof central office buildings and non-fireproof buildings. Now, you might have a different combination of those buildings. You might not have any fireproof

buildings, probably would not in a small town, and the non-fireproof rate would apply. If we had a fireproof building in Peoria and a fireproof building in Chicago, I think we would apply the same rate to the same kind of building.

1021 I don't know positively what the situation was in 1923. As I have said, the tendency is to vary from that if there is a reason for varying from it. I did not compile any part of that figure of $4,480,000 as the expense of depreciation in 1923. I think the General Auditor applied the annual rate of depreciation which was furnished to him through the officers of the Company. I did not directly have anything to do with the computation of the $4,480,000. I did have to do with the determination of the annual rate covering the expense of depreciation which applied to the investment produced that figure.

1022 I did not use the class of plant, the life in years of the plant, the depreciation rate, the salvage, and the composite rate in order to determine the expense of depreciation. I determined this table here. I had help. Different employees, mostly in the Engineering Department, worked with me. None of the other departments worked with me directly in the compilation of the table. According to the best of my recollection most of the help came from my assistants in the Engineering Department. I did not make the same

1023 sort of compilation for each year. I do not go into the same sort of matters in determining the expense of depreciation in each year for the Illinois Bell Telephone Company. A table covering depreciation rates similar to this one is determined, and is left in effect until it is changed by action on the part of the officers of the Company, and each year the Auditor will apply these figures if he has had no instructions to use different ones.

As to the composite rate, where we have subdivided a class of property he is furnished annually with the weighted rate. In this table is a composite rate applying to buildings—2.5 That might vary due to the change in proportion of fireproof

and fireproof central office and non-fireproof buildings. At the end of each year the Auditor is being advised as to what change, if any, has taken place there. The Engineer advises him and finds it out from the records of the Company.
1024 He does not find it out by consultation with the officers of the Company. I doubt if the officers of the Company would know, unless they referred to the books. I did not say that the officers of the Company have nothing to do with the changes from this original determination made from year to year. I said that this original determination held until it had been changed by the officers of the Company. I am an officer of the Company. I ask the Engineer to study the proposition and recommend the changes that he thinks ought to be made to me. After he makes his recommendation I pass on it.
1025 I recommend it to the president and he instructs the general auditor to use it if he approves the same. The American Telephone and Telegraph Company certainly does not tell us that we should change a certain figure. I haven't personally made any studies to show the dates at which the various items of plant were placed in service and the dates at which the same items were retired from service in that particular location. Such studies are being made now.
1026 I think that as of June 30, 1923, we had a small amount of data in regard to poles. Apart from that data there were no other items that earmarked a certain item of plant—that said it went into service in 1910 and came out in 1918. I should think we started making the studies that we now have along in 1922 or 1923. We then began the accumulation. We didn't have enough information by 1923 to amount to much.

These studies were not started on the instructions of the American Telephone and Telegraph Company. I am not sure whether they suggested that it might be a good thing to do or not. I wouldn't be surprised, in view of the fact that it is a self-evident thing to do that they might have suggested it. The Interstate Commerce Commission had started on its

hearings on depreciation. I do not know whether the
1027 American Telephone and Telegraph Company furnished me any studies prior to June 30, 1923 on which I based my conclusion as to the life or salvage or depreciation rates or composite rates of these various classes of account. I had access to such information as they had if I wanted it. I could have had the depreciation tables of other associate companies. All I had to do was to ask for them. I do not say exactly, but about 1922 we started to make studies.

1029 At the time when the rates under discussion were determined, the Illinois Bell had never made an actuarial study of plant mortality tables in order to determine the average life of the various classes of property. No study was completed prior to 1925. The figures that I have stated representing the expense of depreciation for the years 1923, 1924 and 1925 were not based on what is commonly referred to as a mortality table. We had the experience of the company as to average life of the plant that had been removed. Some of that experience was recorded in writing, and some of it was the result of the application of what is known as a turnover cycle method as to different classes of plant.
1030 The turnover cycle method is a method of accumulating displacements from a given year, accumulating them each year backward until you have found a sufficient amount of displacements to equal your plant in service. I have at the office turnover cycle studies as to life on certain classes of plant where the life was sufficiently short so that we had
1031 experience. Some of the data is in writing with reference to the salvage percentages stated on plaintiff's Exhibit 19. There was experience with the salvage. You have got some items of the plant in here of not very long life, and of course items where there has not been much experience
1032 with salvage. You can get a very good indication as to the classes of plant indicated in plaintiff's Exhibit 19 that had a short enough period of life so that we have the data in writing. For instance, central office equipment is rated as

ten year life. We have some experience in salvage on that. All items less than ten years we have some experience. We have some experience on items running up to fifteen years, and possibly some slight experience above fifteen years.

1033 I am familiar with Section 23 of the Interstate Commerce Commission's uniform system of accounts to the effect that the amount charged as expense of depreciation should be based upon the rules determined by the accounting company. The Illinois Bell Telephone Company established depreciation rates as required. They established rules as meant by this order as we interpreted this order. I don't think those rules were reduced to writing. The section says that such rules may be derived from a consideration of the company's history and experience. We have never reduced the rules to writing, as there didn't seem to be any pur-

1034 pose in reducing them to writing. The rates of depreciation have been fixed upon a consideration of the history and experience of the company. The account-

1035 ing company did not establish rules upon which it based its expenses of depreciation. I wouldn't know how to write such a rule. The answer is that the Illinois Bell Telephone Company established the rate of depreciation; we followed the instructions as determined by the Interstate

1036 Commerce Commission. Those instructions were that the company should fix depreciation rates. I construe rules for the purpose of my calculations in compliance with this order that we should consider history and experience and determine depreciation rates. That is what we did. There are certain requirements. We met the requirements of this proposition as we understood it. The company's his-

1037 tory and experience was not the only rule we followed. We also followed the judgment and experience of the officers of the company—experience with telephone plants in general. We had two things—judgment and experience of the officers as to telephone systems in general plus the company's history and experience. If you call those rules, those are the two rules that I followed.

Let me tell as definitely as I can just what we did. We took into account the history and experience of the company, so far as we could ascertain it, in regard to separate classifications of plant and fixed the depreciation rate, and in
1038 fixing that we exercised our own judgment and experience to modify that history, and took into consideration in fixing the rates the fact that they were to apply to future plants. By so doing in my judgment we have complied with that part of Section 23 which said that the amount charged as expense for depreciation should be based upon rules determined by the accounting company. That is all I have done in order to comply with it. I don't think I said that in exercising my judgment as to the future conditions affecting the average life of the plant that I based my judgment as to plans and estimates of the company for the retirement of property in future years. I took into account what had to be done with this property in the future in the way of additions and the probable retirements that would come with them.

1039 I do not mean that I had an estimate in detail as to the probable retirements made at the time when I determined these rates. I never made up a schedule for the retirement of our manual central office equipment and the substitution of automatic equipment. I did not take any such schedule into account. I did not prepare any data upon which I based my judgment as to the future retirement of property.

I don't think that it is possible to exactly determine at any given time when a reserve has been accumulated which
1040 will equal the original cost of the fixed capital less net salvage at the time of retirement. By not exactly I mean that you can get an approximate idea as to whether the reserve is about what it should be, but I don't think you could determine it down to one per cent of the plant investment. I should say you could determine it within four or five per cent. In making the last statements I assumed what was meant was having a given amount in reserve whether there

was any way of determining whether that was about
1041 what should be there at the time. If that is not what is meant to be assumed, I didn't answer the question. Of course it never could be possible at any given time to determine that the reserve at that particular time is or is not sufficient to equal the original cost of fixed capital less the net salvage at the time of retirement, because it would never equal that except just as that plant was going out of service. Property has a certain life; let us assume it is a ten year life; then the property that you retired last year would relate to property that was installed ten years before, and if ten years before you had a plant only one-third or one-quarter of the size of the plant the year that was retired why obviously a retirement allowance would not be sufficient.

1042 My conclusion that the allowance covering the retirement charges would not represent the expense of depreciation, and would not accumulate a sufficient reserve, is based upon my consideration of a proposition which seems to me as self-evident when you state it. I have said that in a growing plant you could not measure the expense of depreciation by retirement charges of the previous year. I cer-
1043 tainly agree that in a growing plant an allowance covering retirement charges only does not represent the expense of depreciation, and would not accumulate a reserve equal to the original cost of the fixed capital less the net salvage at the time of the retirement thereof.

1044 Assuming ten thousand dollars of property in plant account and ten thousand dollars in my reserve, I should say that under those conditions the reserve would meet the ultimate retirement expense. That is what I understood
1046 your question to be. The reserve can't equal the retirement unless it is 100% of your investment at the moment. Of course you know whether it is 100%. You know how much you have in reserve, and you know how
1047 much plant you have. The reserve cannot equal the expense of retirement unless it is the same as your in-

vestment at the time. We think the application of our rates of depreciation will approximate the cost as nearly as it can be done. You are talking about the plant in the future.

1048 I think that taking the Chicago plant the application of a rate of depreciation somewhere around 4.75 per cent will accumulate a sufficient amount in the reserve to take care of the retirement cost. That is what we have been doing. I doubt if the amount of the accumulated reserve for depreciation, which together with the accruals during the succeeding years will equal the original cost of the plant less the net salvage at the time of retirement, can be determined accurately. We know something about the information we need to determine that. You have got to assume your rate of growth. It has got to be a constant geometrical rate of growth as I understand it. You have got to know the total life of your property. By total life I mean including the reuses. You have got to know your ultimate junk salvage—when you are not going to reuse the plant again, and I think you have got to know something about your morality curves applying to the plant. With all that data you could make a stab at it. All of that data we haven't got at the present time.

It will be some years before we can accumulate it, and

1049 I doubt if you can predict your growth. These factors have a bearing theoretically on life. In 1923, 1924 and

1925 we had some information as to our past experience. We had our judgment as to what the life would be. We knew

1050 something about the rate of growth we were anticipating in the next few years. We had nothing on mortality. We knew that in a growing plant you have got to make an allowance in determining life from a turnover cycle method. We did the best we could with the data at hand. Some of these later refinements have been brought out since and are being used, and data is being accumulated in different places.

I don't think you can say it is a factor that in the later years there is a lower rate of depreciation due to long life through improved methods. As the business has continued we have learned more and more about it and developed our

engineering practices. I think we are doing the thing in a way that tends to increase life. I can't say positively that it is a fact that it is going to be a long life. I haven't made any investigation to determine whether the life of any part
of the plant is increased over the estimate which I made
1051 at the time I started to set up the depreciation on ac-
count of that plant, because I have been away from that work. The company is carrying on studies of depreciation all the time. These rates were fixed in 1921, and up to 1923 we had seen no reason for changing them. I have told you before to the best of my recollection we started investigations in 1922, began to get under way in 1922 or 1923. The results of those investigations were not incorporated in our amounts in 1923, 1924 and 1925, because they had not been completed. I think that the whole tendency is to make the length of life of the plant installed in the last few years by the Illinois
Bell Telephone Company longer than that of the plant
1052 installed in the earlier period. I don't think that means
a great long increase in life either, but I think as the art and the business develop, and the knowledge of it develops, and the knowledge of engineering develops, we are so conducting the plant that it tends to increase the life. Creosoting poles tends to increase their life. I don't think we are using the creosoted poles in Chicago, or were using them in Chicago in 1923 and 1924. I am not up on that detail. I question whether we are using creosoted poles in Chicago now. I am general manager of the company. I certainly can
find out when we started. I think we are now using butt
1053 treated poles. Talking about the full creosoted poles, I
don't think we are using them in Chicago. We have used vitrified conduit for a good many years. Paper conduit has not been used—probably in the last fifteen or twenty years there hasn't been any put in. I would say that our determination of conduit life was practically without reference to any paper conduit. We have some paper conduit in use, a very small percentage of our total is paper. If the use of double galvanized hardware would not tend to increase the life

of those particular items, we would be foolish to pay the
1054 price of double galvanizing. We expect it to increase
the life. I would question that the higher grade twisted pair wire will tend to increase the life. It would probably reduce your maintenance expense. I might explain why I said I would question the increase of life; that is because the drop goes with the station installation, and that is rather short lived anyway, but it does avoid trouble and does reduce maintenance expense. We have given a higher life to fireproof buildings than we have to the ordinary constructed buildings in our tables. I don't know that the mere use of fireproof construction would increase the life. Those are more modern buildings. They have been engineered more with reference to future growth in that area, and we do expect them to have a longer life. I am talking about fireproof
central office buildings. As far as wear and tear taking
1055 it out of service is concerned, improved maintenance of
plant probably tends to prolong its life. So far as the other elements terminate its life, improved maintenance does not tend to prolong its life. As a general answer I would say it merely results in better service. If standard equipment is of later design, to that extent it would probably live longer, because that goes back to my original statement that we know more about the business, and we are able to engineer it more in accordance with its demands because we do know more about it. That probably has a tendency to inrease the life. I question whether the mere standardization would increase the life. I think the improved engineering practices of the
company tend to prolong the life of the plant.
1056 I would think the increase in the ratio of telephones
to population would tend to increase inadequacy. It seems to me that is another of those things that is self-evident. If you have a plant—take cable as an illustration. If you have one hundred or two hundred pair cable down a certain alley and you are getting development there greater than you expected, that cable tends to become inadequate, just due to that greater development. Whether the increase in the

number of telephones per population affects the inadequacy of the plant, is all a question of what you planned for when you built the plant. If you had a plant that was built in a city on the basis of development of 10%, and that suddenly increases to 20%, your inadequacy would be enormous.

1057 The increase in the ratio of telephones to population in the city of Chicago from year to year tends to produce inadequacy. Whether the future inadequacy gets less as your staturation becomes greater depends on the plant

1059 you have got there now, on what it was built to carry. In general I will say this about our earlier engineering: It has not been and was not based on the density of development that we are getting now. If you get a higher development than what you plan for, it is bound to produce in-

1060 adequacy. I can only answer that question as to the tendency. I testified that I thought the whole development of engineering was along the line and tended to increase life, and a great deal of that development has been produced by the American Telephone and Telegraph Company's engineering department.

1061 Take a development like the dial service—I think that is having a tendency or will have a tendency to shorten the life of the manual equipment. There have been some developments in loading coils that tend to shorten the life of loading coils. Improved loading coils make the older ones obsolete. There are things going on all the time in any development in the art, any development in the apparatus, that render obsolete apparatus that is now in a plant, going to tend to shorten the life of that plant. I can't specifically name them. They are not of themselves great big things, but there are things going on that tend to do that. In setting up the annual depreciation rates from year to year we have tried to take into account the fact that the future life of this plant has been getting longer through these various factors that I have heretofore indicated.

1063 I testified as to what we set aside for the annual charge for depreciation during the year 1924. It was

set aside by the application of life tables of depreciation rates to the amount of property on the books. I think in 1924 there was a change in some of those tables. I don't remember what the change was.

Cross-Examination by Mr. Clausen.

1065 I am not familiar with the electric and gas accounting rules as adopted by the Illinois Commerce Com-
1066 mission. I don't know whether the Illinois Commerce Commission in its order of August 16, 1923, used the term "retirements' as synonymous with "depreciation." My recollection of the case is that they took the retirements over a period of years and arrived at a figure which fell
1067 within the range covered by those figures and treated them as depreciation when taken in conection with their allowance of 8¾% of all additions and betterments. As I recall that order, there was evidence as to the retirements in, we will say—I do not remember the years exactly—1919, 1920, 1921 and 1922—a certain number of dollars of retirements, and they arrived at a figure representing the retirements. I am under the impression they were influenced by
1070 those different figures. I have an understanding that in this sum allowed by the Commission for maintenance and retirement that they included only maintenance and retirement expense; that when they allowed this 8¾%, I don't know how much allowance there may have been above their estimate of maintenance and retirements as applied to additions and betterments. I probably did six years ago, but I have forgotten.

I am familiar with the terms "sinking fund method,"
1071 and "straight line method." The company used the straight line method.

Re-direct Examination by Mr. Bangs.

I have read the order of the Commission, copy of which
1073 has just been handed me. I think the order is very clear that they departed from their own rules as to

depreciation expense and the findings for depreciation expense. They took maintenance expense and retirement expense, added them together and said that that record of the past indicated what was necessary to maintain the plant in good condition, that it had been maintained in good
1074 condition. They apparently made some slight further addition which would have to be considered as an allowance for expense of depreciation, but it was entirely inadequate, and to show this it requires only a consideration of the principle and the rule as to what depreciation expense is to cover, that is, depreciation expense is to spread over the useful life of the property the expense involved as depreciation. You have got a rapidly growing plant here, and you have got a life I think that they will admit of at least twelve years, consequently your retirements in any given year must refer on an average to the amount of plant you had in service twelve years before. You have a condition where your plant at least tripled in size in twelve years, and your retirements, by a simple mathematical calculation on that basis, must be approximately one-third of what the depreciation was on your plant for the year in which the retirement takes place. You ask whether they made any allowance for the expense of depreciation. I am inclined to think that they made a slight allowance. They state clearly, it seems to me, that they
1075 do not intend to fully cover the expense of depreciation.

They made an allowance in this way: if you add your maintenance expense and charges to the reserve, which are the retirements, over a period of twelve years, they state in their order that the average has been 7.03%. They also state that the maximum was 8.56% in any one year. They then allowed 8¾% for additions and betterments, and the amount of their allowance in Item 11 of the order, where they state that a fair allowance to take care of maintenance and depreciation charges for said property in use as of December 31, 1922, is $7,869,400. If you add their showing as to maintenance expenses, which I assume were taken from our books, for the year 1922 and the net charges to reserve for depreciation

for that year, you get a sum somewhat less than $7,869,000. I don't know how to explain that difference except that they did intend to make some allowance for expense of depreciation. That amount, however, is wholly inadequate for expense of depreciation. Assuming that the company's operations for a year resulted in a combined expense
1076 for maintenance, that is, repairs actually made, and for retirements actually made during that year of 9%, I think there wouldn't have been in that year any allowance for the expense of depreciation. I don't know what percentage this $7,869,000 is of the plant in 1922. It can be computed. I think they intended to make some allowance. I think $7,869,000 was to apply to the future and was to be augmented by 8¾% of the additions and betterments. It might very well happen that there would be no allowance in a given year, but that your maintenance and retirement charges from year to year in the future may exceed the amount which they allow. In my opinion the allowance made by the Commission for maintenance and retirement expense could not
1077 possibly distribute as nearly as may be evenly throughout the life of the depreciated property the burden of repairs and the cost of capital consumed in operations. It is clear to me, from reading the order, that they did not base their allowance upon the average life of the units comprising the respective classes of property. Referring to the following quotation from the 1920 order of the Public Utilities Commission: "Substantially the contention of the City of Chicago is this: The actual expenditures for the replacement of plant from 1911 to date, are in an amount equal to approximately 2½% per annum of the average plant in service, and therefore an annual charge of 2½% per annum of the average plant in service is adequate to provide for
1079 depreciation." That contention is substantially the same as the basis of the finding made by the Illinois Commerce Commission. I think the Illinois Commerce Commission, in arriving at this order, said, "We will add a little something to that figure for good measure." I agree with

the conclusion of the Public Utilities Commission as to that contention, which is as follows: "Such conclusion is based upon retirement interpretation of the meaning of depreciation, and cannot be sustained as applying to the conditions in this case in view of the established practice which is exemplified by the requirements of this Commission as to the method of accounting to be followed by the operating public utilities."

1081 I have examined Plaintiff's Exhibit 6. This is a computation to show the difference between the allowance by the Commission for maintenance and retirements and the sum of the maintenance the company experienced and its calculations as to the expense, its charges for expense of depreciation. It covers the years 1923 to 1928 inclusive. The final column is the difference between those two things that I stated.

1082 Plaintiff's Exhibit 21 marked for identification.

This exhibit (Plaintiff's Exhibit 21) shows for the year 1923 plant and equipment in service at the end of the year $100,145,419, the net additions during the year $14,457,603, average net additions $7,228,802. Under commission allowance the fixed amount as of December 31, 1922, is $7,869,400 plus 8¾% on subsequent net additions, or $632,520. The sum of the last two items, that is, the fixed amount and the 8¾% on the subsequent net additions, is $8,501,920. Taken from the company's books, accounts 601 to 607 inclusive, and account 610, current maintenance $5,901,733, net charges for depreciation reserve
1083 $1,509,877; total actual maintenance retirement charges was the sum of the actual maintenance and retirement charges for that year, and is $7,411,610. The excess of the Commission's allowance, that is, the difference between the total of $8,501,920 and the total of $7,411,610, is $1,090,310. The last column represents the difference between the allowance made in the Commission's order covering maintenance and retirements and what actually occurred in the year 1923;

that is to say, the company's actual charges as shown
1084 by the books for maintenance and retirements. That is, you had a certain amount of retirements which were allowed and in addition this shows $1,090,310; that would represent the additional amount allowed towards the expense of depreciation, the amount which was not used up by the retirements in that particular year. In the year 1928 the balance is in red.

"Mr. Haight: I will have to make the same objection that we have made heretofore to this line of testimony, founded on the opening statement, as going beyond the years we think it is proper to inquire into."

The balance in red for that year means that the actual
1085 expenditures for maintenance and retirements during the year 1928 were more than was allowed under the Commission's order when you apply the terms of that order to the year 1928. The balance shown in the last line of Plaintiff's Exhibit 6 for the year 1928 is $3,685,550. This balance in Exhibit 6 is the difference between the Commission's allowance applied to the year 1928, and the sum of what was spent by the company for maintenance and
1086 what was charged as the expense of depreciation. The Commission's allowance for maintenance and retirements was in the year 1928 $167,504 less than the actual charges of the company in that year for maintenance and retirements, and in addition was $3,685,550 less than the amount actually charged by the company in that year for maintenance and expense of depreciation.

Re-cross Examination by Mr. Clausen.

1087 The total plant account as of December 31, 1922, is stated on page 15 of the order (Case 11894) as $85,687,816. This sum of $7,869,400 is 9.184% of the plant and equipment in service on December 31st, as stated here. The order states that the average amount charged to maintenance for the twelve years, 1911 to 1922, is 5.41%, and that the amount

charged to reserve for retirement is 1.62. I am reading
1088 entirely from this order. I don't know why the Commission allowed it. There is an allowance above retirement charges as has been brought out here. I don't see any basis for saying that the Commission in effect allowed 3.77% for depreciation reserve. I don't know from the order that they allowed anything for depreciation reserve. I think they claim in the order there is an allowance for depreciation or replacement. I don't know the exact language. Assum-
1090 ing the Commission allow 5.41 for maintenance, I know they allowed something for retirements in addition to that, and it is evident that they allowed something over and above that after you add the retirements. I don't know how they arrived at it or what they intended to cover. I
1091 can't assume that they used 5.41. There is a difference between 5.41 and 9.184. I am unable to read the mind
1092 of the Commission. I am unable to tell what they had in mind, whether having in mind that this is an average figure, they made a large allowance for retirements in that one year, or whether they intended to make an allowance for depreciation. It is something I cannot determine.

1094 *Re-direct Examination by Mr. Bangs.*

Assuming a telephone company installed a pole line at an original cost of ten thousand dollars, the construction being completed by December 31, 1909, and the entry being made in the appropriate plant account January 1, 1910,
1100 and assuming an average life of ten years for that pole line and no net salvage, the assumption that the ser-
1101 vice life is ten years and no net salvage would call for an entry under expense of depreciation of one thousand dollars. There had been no replacement, so your reserve would be one thousand dollars. You already have ten thousand dollars invested in the plant. Assuming the addition of another ten thousand dollars put in at the first of the second year, the plant in service then would amount to twenty

thousand dollars. The charge to expense of depreciation would be two thousand dollars in the second year. There would still be no retirements. You would have accumulated in your reserve by the end of the second year three thousand dollars. Assuming the addition of another ten thousand dollar pole line in the third year, your total plant in service at the end of that year would be thirty thousand dollars; your expense of depreciation that year would be three thousand dollars, which added to the previous three thousand dollars that you had in your reserve would bring your reserve up to six thousand dollars at the end of the year. As-
1102 suming in the fourth year a twenty thousand dollar pole line is added, your plant in service at the end of the fourth year would become fifty thousand dollars; your expense of depreciation for that year would be five thousand dollars and the amount of your reserve at the end of that year would be eleven thousand dollars. Assuming the addition of another twenty thousand dollar pole line in the fifth year, the plant in service would become seventy thousand dollars; your expense for depreciation for that year would be seven thousand dollars, and that added to the previous amount in your reserve brings your reserve up to eighteen thousand dollars. Adding a twenty thousand dollar pole line in the sixth year makes the total plant in service ninety thousand dollars; your expense of depreciation for that year would be nine thousand dollars, and your reserve
1103 would become twenty-seven thousand dollars. Assuming in the seventh year you start to grow still more rapidly and add a thirty thousand dollar pole line, the plant in service would be one hundred and twenty thousand dollars; your expense for depreciation that year would be twelve thousand dollars, and that item added to your previous reserve would bring your reserve up to thirty-nine thousand dollars. Adding another thirty thousand dollar pole line in the eighth year raises your plant in service to one hundred and fifty thousand dollars, and your expense for depreciation that year would be fifteen thousand dollars, and your reserve

would be increased to fifty-four thousand dollars. Adding another thirty thousand dollar pole line in the ninth year would bring the plant up to a hundred and eighty thousand dollars; expense for depreciation for that year would be eighteen thousand dollars, and your reserve would have increased to seventy-two thousand dollars. Assuming the addition of a forty thousand dollar pole line in the tenth year would bring your plant in service up to two hundred and twenty thousand dollars. Your expense for depreciation for that year would be twenty-two thousand dollars; your
1104 reserve would have increased to ninety-four thousand dollars. In the eleventh year you add another forty thousand dollar pole line. You add that forty thousand dollars to your plant in service, but the ten thousand dollars which you put in the first year, under our assumption of ten year life, would disappear, so that your net additions to plant that year, instead of being forty thousand dollars, would be thirty thousand dollars, making your plant in service that year two hundred and fifty thousand dollars. That is the first year in which we have encountered retirement expense. The amount of that retirement expense is ten thousand dollars, and is related to your first year's plant, which was ten thousand dollars. There is a percentage relation between that amount and the amount of the plant in service at the end of the eleventh year, expense of depreciation charged in the eleventh year, and the amount of de-
1105 preciation reserve, but there is no relation which you could use to determine the expense of depreciation. That is just taking this illustration. Your retirement for that year is ten thousand dollars, but your expense for depreciation that year is twenty-five thousand dollars.

This hypothetical method which I have described is the method which is prescribed by the accounting rules of the Illinois Commerce Commission and the Interstate Commerce Commission. I wouldn't know any way, other than the method which I have stated, to distribute equally throughout the life of a depreciating property the burden of repairs

and the cost of capital concerned in the operation during a given month or year, and being based on the average life of the units comprised in the respective classes of property.

1106 The Company did not comply with the findings of the order of the Public Utilities Commission entered December 20, 1920, and my recollection is that there was no order to do so. Furthermore, the findings were contrary to the Commission's own rules and to the rules of the Interstate Commerce Commission.

1107 My attention has been called to Section 13 on page 33 of the Uniform System of Accounts of the Interstate Commerce Commission, which reads in part as follows:

> "When any property in the form of a going or completed plant is purchased, an appraisal of the property so acquired should be made, and the different constituent elements of the plant (and equipment, if any) or other property acquired should be appraised at their structural value; that is to say, at the estimated cost of replacement or reproduction less deterioration to the then existing conditions through wear and tear, obsolescence, and inadequacy."

That condition of the property is sometimes referred to as its depreciated condition at a given time.

1108 The word "depreciation" is sometimes—it isn't always—used technically in the sense of "expense of depreciation." I presume that I have sometimes referred to this as "depreciation." I don't think in this testimony, but in generally discussing the subject. It is sometimes used to express this deterioration referred to here. The words "less deterioration to the then existing conditions through wear and tear, obsolescence and inadequacy" represent what I meant by "present condition" of the property. If you take 100 per cent as representing the reproduction cost new of the property, and on inspection you find it in 90 per cent condition, that is what we mean by "present condition." There is a difference of 10 per cent there which represents the deteriora-

tion in that plant or the existing depreciation of it when the word "depreciation" is used in that connection.

1109 I inquired of the man who had charge of the Plant Department in the year 1923, and he said we were not using creosoted poles, which bore out my belief that there were no creosoted poles in the plant in 1923.

I think the Company complied fully with the intent and purpose of Section 23 of the Uniform System of Accounts. We never, to my knowledge, received any complaints from the Interstate Commerce Commission or the Illinois Commerce Commission as to our non-compliance with those rules.

1110 I think we gave consideration to all the factors enumerated in my cross-examination, which would tend to increase the life of the property in the City of Chicago, in my determination of the proper expense of depreciation for the year 1923. I considered all the factors affecting the life. I did not attempt to enumerate all the factors which might tend to diminish the life of the property.

Re-cross Examination by Mr. Goldstein.

I don't know positively whether in 1923 there were any butt treated creosoted poles. I think there were, without question. I would question whether we have been using 1111 butt treated poles in increasing numbers since 1922 and 1923 to the present time, because I don't know whether we have been using increasing numbers of poles. My impression would be that we are not putting in any poles that are not butt treated creosoted poles. I am not positive of it.

2794 I stated on my direct examination that I was responsible for fixing the depreciation rates which were made effective in the Chicago area on January 1, 1921, and which were set forth in Plaintiff's Exhibit 19. Also that I approved

the depreciation rates which were made effective in the
2795 Chicago area on January 1, 1924, and were in effect during the years 1924 and 1925.

With reference to what written material, studies or memoranda I had before me or used to guide me in fixing the depreciation rates set forth in Plaintiff's Exhibit 19, I had before me, or at my disposal, in written form, the average life for practically all of the classes of plant as determined by the turnover cycle method. I also had figures showing the salvage recovered during a period of years in the past for each class of plant, figures showing the conversion of plant retirements of each class, and the associated salvage, to a uniform price level, and the percentage of salvage computed on this uniform price level.

I had available other information or data in written form for use as a guide to my judgment in determining these 1921 depreciation rates. The books and records of the Company were available and used as necessary in compiling the data referred to in my previous answer.

With reference to the process by which I arrived at
2796 the average life and salvage figures shown on Plaintiff's Exhibit 19, from the average life figures computed by the turnover cycle method and the salvage computed at uniform price levels, I considered the Company's history and experience, and exercised my judgment as to future conditions which would affect the average life and salvage of the plant presently in service, and gave weight to the fact that the average life of certain classes of plant was probably increasing. I had before me the data as to average past life, as indicated by the turnover cycle method, for the majority of the classes of plant, and the data referred to as to the salvage experience of the Company over several years.
2797 I exercised my judgment in modifying these data in determining the figures appearing on Exhibit 19, taking into consideration all the factors stated in my testimony

which should be taken into account in fixing depreciation rates.

I did not have before me any specific mathematical computations as to the amounts of error or difference which might exist in the average life as computed by the turnover cycle method, or of the amount by which the salvage computed at uniform price levels might differ from the percentage of salvage actually recovered over a period of years in the future. As to the turnover cycle method, I knew that certain adjustments could be made in connection with the result obtained from the turnover cycle method if the necessary data had been then available. As to the salvage, I realized the experience of the Company which I had before me would require certain modifications in connection with the future. In fixing the rates shown on Exhibit 19 I made allowance for all these factors according to my best judgment, based upon the material then available. I gave weight to inaccura-
2798 cies or errors in the turnover cycle method or in the method of computing salvage in arriving at the average life and salvage figures which underlie the depreciation rates which were in effect in the years 1921 to 1925, inclusive, to the extent already stated in my previous answer.

1112 (Plaintiff's Exhibit 21 offered and admitted.)

1153 Plaintiff's Exhibit 22 offered in evidence.

Plaintiff's Exhibit 23 offered in evidence.

1154 Plaintiff's Exhibit 24 offered in evidence.

Plaintiff's Exhibit 25 offered in evidence.

1155 "Mr. Bangs: As the record does not show in all instances whether the court has actually received in evidence all of the twenty-five exhibits, I therefore offer at this time all twenty-five of the exhibits.

"Mr. Haight: We object to all of those that relate to matters subsequent to the year 1925, for the reasons heretofore given.

"The Court: In cases where there has been no expression admitting them, the ruling now is they may be received in evidence."

Plaintiff's Exhibit 26 offered and admitted in evidence.

1160 Plaintiff's Exhibits 27, 28 and 29 offered and admitted in evidence.